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PRACTICAL OBSERVATIONS ON SUMMER COMPLAINTS, CHOLERA INFANTUM, SUMMER DIARRHŒA OF CHILDREN, GASTRO-ENTERITIS OF CHILDREN.

BY JOSEPH JONES, M.D., LL.D.,

NEW ORLEANS, LOUISIANA.

Professor of Chemistry and Clinical Medicine, Tulane University; Visiting Physician of Charity Hospital.

NEW ORLEANS, June 19th, 1892.

To the Editor of the Times and Register, Philadelphia, Pa.

DEAR DOCTOR:—I have the honor to acknowledge the following:

"PHILADELPHIA, JUNE 14th, 1892.

"DEAR DOCTOR:—I have under way a special number, devoted to 'The Summer Complaint,' and would be very glad to have a paper from you on the subject. Any time within two weeks will do. The specials are given an extra circulation, and are wonderfully successful.

"Truly yours,

"W. F. WAUGH."

Allow me to say that circumstances are such at present, that I can give you but a few practical suggestions on this important subject.

Respectfully yours, JOSEPH JONES, M.D.

CHOLERA INFANTUM is said to destroy annually about 40,000 infants in the United States, and this little army of innocents passes over the river, leaving but slight traces of their brief existence, except in the hearts of their mothers and fathers. This disease stands sixth on the list of fatal diseases, and is largely instrumental in producing the deaths of one-half of the human race, between the ages of birth and five years of age.

What must the amount of suffering and expense be to the country at large, for the care and treatment of the vast number of children suffering with bowel affections; how important should the study of this disease be to the philanthropist, as well as to the scientific and practical physician.

In the short space of time now at my command, I can do no more than present the following brief practical observations.

I. CAUSES OF CHOLERA INFANTUM.

(*a*) Dentition.
(*b*) Elevated temperature.
(*c*) Crowding and the crowd poison of large cities; bad ventilation, especially in tenement houses; the exhalations of gutters and sewers and privies, especially during the hot months of summer.
(*d*) Impure milk, whether derived from sickly ill-fed mothers, or from imperfectly fed and diseased cows; or from metallic cans.
(*e*) Ptomaines engendered in fermenting milk.
(*f*) Specific micro-organisms.

DENTITION AS A CAUSE OF CHOLERA INFANTUM.

In the teething child, the teeth press upon and irritate the extremities of the dental nerves, and the irritation is transmitted by those nerves to the ganglionic cells of the cerebro-spinal nervous system, and from thence to the sympathetic ganglia.

As a result of this irritation and reflection of the irritation to the gastro-nervous membrane, there is induced—

(*a*) An enfeebled and excited condition of the central ganglionic cells of the cerebro-spinal nervous system, often resulting in irritation and inflammation of the meninges of the brain, hydrocephalus, convulsions and death. The truth of this proposition is sustained by the frequency and fatality of convulsions amongst teething children. We are all familiar with the restlessness, the tossing of the head from side to side, the dilatation or contraction of the pupils, and the firm contraction of the fingers, and especially of the thumb, which in many cases of cholera morbus precede convulsions and death.

The irritation of the ganglionic centers in the teething child, leads to impairment of digestion, loss of tone and power in the alimentary canal, irritation of the gastro-intestinal mucous membrane.

The impaired functions of the stomach and bowels in the teething child, are indicated by profuse watery serous, often light colored and highly offensive discharges, often mixed with masses of undigested, fermenting and putrid milk.

Both the liver and kidneys are frequently involved in cholera infantum, and owing to the reflection of the irritation, or excitement to the kidneys, the urine sometimes contains grape sugar. In many cases, the functions of the liver are involved to such an extent as to lead to the disappearance of the coloring matters of the bile in the intestinal discharges.

ELEVATED TEMPERATURE AS A CAUSE OF CHOLERA INFANTUM.

The cases of cholera infantum occur chiefly during a period of ninety days, embracing the months of July, August and September. The first five or ten continuous days of elevated summer heat are generally attended in the large American cities, as Boston, New York and Chicago are attended, with the development and spread of this disease. The effects of elevated temperature are fourfold.

(*a*) Depression of muscular and nervous forces, leading to debility and perversion of the functions, and especially of digestion and nutrition. The effects of elevated temperature are mostly severe upon these, or teething children who have already been debilitated by gastro-intestinal irritation and profuse serous discharges. Every infant and child is, more or less, affected and debilitated at all seasons of the year by the process of dentition; hence the protracted heat of summer is most severely felt by this class of the human race.

If the strong, robust men and women suffer intensely in our large cities from the elevated temperature of summer, and often fall victims to sunstroke and other conditions resulting from elevated temperature, how much more potent must elevated temperature be in effects upon infants and children already debilitated and deranged by the process of dentition.

(*b*) The increase of fermentation and putrefaction in the sewers, gutters, drains and privies, and in the refuse matters, garbage, etc., and in the urine and excrements of animals saturating the streets.

Increased fermentation and putrefaction during the action of elevated temperature in crowded cities and tenement houses, is necessarily attended by the increased developments of noxious gases, such as carbonic acid, carburetted hydrogen and sulphuretted hydrogen, and by morbific micro-organisms.

In hot weather in cities all are, more or less, affected by these morbific agents; but these deleterious effects are especially exerted upon the debilitated systems of teething children.

(*c*) The increased fermentation and putrefaction of milk, and of all forms of animal food during high temperature. The change of milk is especially rapid when administered unboiled in unwashed or carelessly cleansed bottles or vessels.

(*d*) The debilitating effects of prolonged elevated temperature upon mothers, wet nurses, and cows furnishing milk to teething children.

The effects of elevated temperature in depressing the nervous and muscular forces, and in deranging the secretions, are felt, to a certain extent, by mothers and wet-nurses, leading to an alteration and diminution of the quantity and quality of the milk.

CHOLERA INFANTUM CAUSED BY CROWDING.

The crowd poison, bad ventilation, the noxious exhalations of sewers, gutters and privies, and the stagnation of the air during periods of protracted heat in cities.

CHOLERA INFANTUM CAUSED BY IMPURE MILK,

whether derived from sickly ill-fed mothers, wet-nurses, or from cows.

CHOLERA INFANTUM CAUSED BY PTOMAINES

engendered in fermenting or putrefying milk during the increased heat of summer.

Canned milk may also be a source of much evil, from the development of poisonous products.

Carelessness in the cleansing of bottles and vessels used in feeding children may be the source of much harm, and lead to the development of mucus poisonous products capable of deranging the digestion and the intestinal canal of teething children.

CHOLERA MORBUS CAUSED BY A SPECIFIC MICRO-ORGANISM,

or by a number of toxic micro-organisms capable of inducing fever, gastro-intestinal derangement, convulsions and death.

This important subject is worthy of the most protracted and careful investigation, and the United States should not limit its efforts and investigations to yellow fever, an exotic and, to a large extent, a preventable disease; but should appoint and support a commission of learned and accomplished practical microscopists, sanitarians and physicians for the investigation of this destructive, wide spread and annually recurring disease

Like yellow fever, cholera infantum in its origin and spread is largely dependent on elevated temperature.

SOME PRACTICAL OBSERVATIONS ON THE TREATMENT OF CHOLERA INFANTUM.

(*a*) Change of air from the crowded city and ill ventilated houses to the cool and pure air of the sea-coast, or elevated mountainous region, or the more sparsely settled districts of the country.

Of course, such changes in the surroundings of teething children are only practicable in the cases of those possessed of the necessary means and endowed with the necessary humanity.

I would suggest and urge that sanitariums for teething children should be established along the sea-shore, in rural districts, and elevated regions, accessible to all classes, and supplied with all the necessary requisites of medical treatment and wholesome food. The benevolent, endowed with ample means, could never do a greater or nobler work than the formation of sanitariums or retreats for teething children.

(*b*) The milk of the healthy mother, or wet nurse, will, to a large extent, ward off and mitigate the effects of cholera infantum.

When cow's milk is used it should be obtained from one healthy cow; it should be carefully boiled.

The bottles or bowls containing the milk should be kept at all times scrupulously clean by boiling after each use in feeding the child. The structure and arrangement of the nipple is also important.

A small quantity of lime water (liquor calcis) added to the milk will prove beneficial in neutralizing the acid conditions of the stomach, and in aiding as a germicide, and in furnishing an important element of the teeth and bones in the teething child.

(*c*) Properly prepared beef tea from fresh, tender, raw beef, to which a few drops of hydrochloric acid have been added, may, in many cases, be substituted with benefit for milk.

Duecro's Alimentary Elixir of the French is in high favor with some practitioners, and appears to be beneficial; not merely

from the salts of beef but also from the presence of good brandy.

(*d*) Small doses of calomel or of hydrargyrum cum creta are often of marked benefit when judiciously used in the treatment of cholera infantum.

(*e*) The excessive discharges from the bowels may often be combated by the judicious use of the subnitrate of bismuth and precipitated carbonate of lime, as in the following:

℞.—Camphorated tincture of opium (paregoric) ..... f℥ij
Tincture of rhubarb..... ♏xx
Tincture of asafœtida..... f℥ij
Tincture of catechu,
Tincture of kino .....āā f℥iv
Precipitated carbonate of lime.... ℥iv
Peppermint water..... f℥i
Water sufficient to make in all.... f℥viij

Sig. Shake well. Dose, one or two teaspoonfuls every two, three or four hours, as necessary.

(*f*) Digestion may be promoted, and the strength maintained by the following combination of pepsine and the phosphate of lime and tartaric phosphate of iron:

℞.—Pepsine,
Phosphate of lime,
Tartaric phosphate of iron.....āā ℥iv

M.—Sig. Administer from five to ten grains of this mixture, in a little syrup, three times a day, after meals.

This mixture should be carefully preserved in well stopped bottles. One drop of tincture of nux vomica administered three times a day, properly diluted, will prove beneficial in some cases. So also quinine, judiciously used internally, in from one to two grains three times a day, will prove beneficial in many cases of cholera infantum.

Sulphate of quinine may also be employed externally with benefit, in the following liniment:

℞.—Quinine sulph..... ℥i
Soap liniment
Olive oil .....āā f℥ij

M. Rub the body and joints of the arms and legs and feet of the child, two to four times a day.

The effects of this liniment will be, in a measure, to reduce the temperature. In concluding this brief outline we would lay stress upon the necessity of furnishing the little cholera infantum patients with abundant and continuous supplies of fresh air and cool fresh water.

CHOLERA INFANTUM.

By F. F. LOUGHEAD, M.D.

CHOLERA infantum, or summer complaint, the most severe and dangerous form of the gastro-intestinal diseases which are prevalent among children during the summer months, is characterized by very frequent stools, at first having a very offensive odor, and being semi-solid, but which latterly become fluid, losing their color and odor, and only slightly staining the child's napkin; frequent and persistent vomiting, accompanied by more or less retching, and containing sometimes bile and sometimes only the water which the patient has taken; high temperature, attaining 105° or more; higher by 2° or 3° in the rectum than in the axilla; total loss of appetite, and intense thirst; scanty urine, and emaciation and weakness most pronounced. The eyes are sunken, and the fontanelles depressed; the face and extremities are cool, and the respiration more rapid. There is marked abdominal tenderness.

Toward the end of the disease, if fatal, convulsions and cerebral symptoms are quite prominent.

Causes.—The causes which lead to these conditions are:

1. Decaying animal and vegetable matter.
2. Bad drainage and sewage.
3. Impure drinking water and milk.
4. Poor hygienic surroundings.
5. Crowded tenements and imperfect ventilation.
6. Improper food and feeding.

It is a well established fact that in large cities and towns where the above conditions exist, there does this disease find its victims, whereas in the country the disease is almost unknown, and when it is present its origin can be readily traced.

Treatment.—The treatment resolves itself into the preventive and the curative, but the most important is the first.

As the gastro-intestinal symptoms are the most prominent, a thorough understanding of the digestive functions, as well as the quantity and quality of food, and times of feeding, are necessary. The food is digested by various secretions, which in the infant are very limited in their capabilities.

Ptyalin, the ferment of the salivary glands, is alkaline in reaction, and converts starch into glucose.

The gastric juice is acid in reaction, and through its active principle, pepsin, converts the proteids into peptone, having no action on starch, grape sugar, or fats, excepting to dissolve the membranes of the fat cells.

The bile is alkaline and slightly emulsifies fats.

The pancreatic juice is alkaline; it converts starch into sugar, proteids into peptones, emulsifies fats, and is the most important.

Remembering the rudimentary state of the glands, and the limited power and action of their secretions, the necessity for the proper food and feeding of the infant is manifest. If these be properly attended to, a majority of these cases can be prevented, and if the disease attacks the child, it can be more successfully combated.

As the mother's milk is the only true and perfect food for the infant, and the artificial foods on the market are but poor substitutes, artificial feeding should never be resorted to, excepting in cases of absolute necessity, and then we must aim to supply something which will approximate as nearly as possible that which we are obliged to forego. That which is most nearly allied to human milk is animal milk. The mother's milk is alkaline in health—the cow's is acid. The gastric juice coming into contact with the casein of the natural food, causes it to coagulate in small flakes, while the casein of the cow's milk is coagulated in large masses, thereby sometimes producing gastro-intestinal disturbance. To overcome this great difference between the human and animal milk, we must act upon casein of the cow's milk, so that it will curdle as nearly like that of the mother's as possible. This may be accomplished to a satisfying degree by pre-digesting the milk, which is done as follows:

Take

Extract Pancreatis.....	gr. v.
Sodii Bicarb.....	gr. x.

and dissove in one gill of warm water, after which add one pint of warm milk; put this in a bottle, and place in water kept at 100° Fahr. for one hour. Taste frequently, and if there be the slightest bitter taste, remove and place on ice, to prevent further action; for if digestion go too far, the child will reject it on account of the bitter taste. The milk must be perfectly pure and fresh, vessels absolutely clean, and water boiled before using. This, as well as other artificial foods, must be prepared fresh and in small quantities. As the child's stomach is very small, one under four weeks of age should never be fed more than an ounce at a time, or oftener than every two hours; above this age, the quantity is to be increased gradually, as are also the intervals between feeding. In the last few years, I have used peptonized milk to the exclusion of other foods, and with more uniform success. Of the artificial foods, those which are prepared according to the Liebig formula are the best.

Gruels may also be employed to advantage.

If possible, remove the child from its bad surroundings; if this cannot be done, keep it in the open air during the morning and evening hours as much as possible.

Dress it lightly, with a flannel bandage around the abdomen; protect it from sudden changes in temperature; and feed it neither too much nor too often. Bathe it regularly daily, in a bath of about 98°, and allow the water to cool to about 90°, or even 85°. Should these measures be insufficient to ward off the disease, other means are at our disposal; but now we must cure and not prevent.

What I have said, regarding the care of the child, still obtains, but we must call in other agents to assist.

For the intense thirst, give lime-water and milk, brandy, ice, water.

For vomiting and diarrhœa, lactopeptine, bismuthi subnit., mist. cretæ, pulv. cretæ comp. cum opio. Enemata may be given with good results; starch water, with laudanum; argent. nitrat., with mucilage.

Flushing the bowels with luke-warm water often removes irritating matter in them.

For the nervous symptoms, bromide of potash may be given.

Opiates should be administered with caution.

Sulpho-carbolate of zinc, in combination with bismuth, is very efficacious.

As to the use of calomel, corrosive sublimate, and arsenite of copper, I do not consider their use judicious.

WOODBURN AVENUE, CINCINNATI, OHIO.

THE SUMMER COMPLAINT.

By WILLIAM F. WAUGH, M.D.

ZINC sulphocarbolate is a salt remarkably free from irritant properties. A pure article is so little like the other zinc salts in this respect, that I have often taken a five grain pill as a lozenge; while in typhoid fever my patients have often taken sixty grains per day, without any unpleasant effects. During the summer the patients are warned that they must notify me whenever the stomach or bowels show signs of disturbance. When the stools become offensive, or the breath sour, the child is at once given a few doses of alkaline syrup of rhubarb, the following being a favorite formula:

℞.—Syr. rhei aromat..... f℥xij
Syr. ipecacuanhæ..... f℥j
Potass. carbonat..... ℥ss
Tinct. hydrastis..... f℥jss
Tinct. castorei..... f℥j
M.—S. f℥ss to ℥j every two to four hours for a child under two years of age.

This is followed by the sulphocarbolate, which I am now using in the form of dosimetric granules, ⅙ grain each. One of these is taken every half hour, or oftener, until the stools have lost their odor, or the sour fermentation has ceased. If the symptoms are more decided, the dose is increased. Let a mother once learn the use of this drug, and the chances for the development of cholera infantum in her infants are reduced to a minimum.

When vomiting commences, the stomach should be cleansed out by draughts of warm water. This will remove any morbid contents, and often the vomiting will then cease; especially, if food and drink be withheld for some hours. If the bowels be not freely open, calomel should be administered in doses of $\frac{1}{10}$ grain every hour; with this, the sulphocarbolate, in the following formula:

℞.—Hydrargyri chlorid. mitis..... gr. j
Zinci sulphocarbolat..... gr. v
Bismuth subnitrat..... gr. xx
Testæ preparat..... gr. x
M. et in chart. No. x, divide.
S. One every hour.

Irritability of the stomach is often relieved by counter-irritants, such as a sinapism, or a spice-bag, to the epigastrium. A warm bath also helps to tranquillize the child. But, whatever else is done, the mycotic operations carried on in the stomach must be stopped, the irritability of the organ soothed, and it should be put at rest, as far as possible, for several hours at least. The child can do without food for that time; the thirst relieved by the bath, by aqueous enemas, small pellets of ice, or, better, by hot water in teaspoonful doses. Resist the demand for cold drinks, and reduce the fever by baths, and the stomach will soon regain its functional activity.

Diarrhœa is less to be feared than the vomiting. If it be moderate, the foregoing treatment will suffice. If it be severe enough to weaken the child, the bismuth should be increased, and the zinc given in in hot water enemas, 5 to 10 grains in 2 to 4 ounces. If the symptoms assume the aspect of dysentery, the enema should be changed to nitrate of silver, ½ grain to 4 ounces. This is a very effectual means of treating severe forms. If there be much pain and straining, an enema of hot water with bismuth suspended is useful, and morphine may also be given in small doses.

For true cholera infantum, more energetic measures are required. If there be fever, this should be reduced by baths and by ice to the head. But fever and choleraic symptoms are alike due to the gastro-intestinal mycosis, and this calls for the sulphocarbolate, in doses of 1 grain every half hour until improvement begins. It is best to give it in powder with bismuth. Sometimes instead of fever there is apyrexia, indicative of collapse from failure of the vital forces. Here the indication is for camphor, alcohol, and, best of all, coffee. Camphor, the monobromide, gr. ⅙ every hour; alcohol in the form of bovinine, 5 drops every ten minutes; hot coffee, 10 drops every ten minutes, are the best forms for administration. In all degrees of the summer complaint, bovinine and coffee are the best stimulants.

When diarrhœa, with gastro intestinal irritability, remain after the worst of the attack is over, the arsenite of copper is very useful, acting as an astringent, a tonic, and relieving the irritation. I am sorry to say that in the early part of the attack, this drug has not proved beneficial. Salol has also disappointed me, its action being far inferior to that of the zinc. The latter *must be pure*, to give good results. That of Powers & Weightman has always proved irritating in my hands, and whenever I have had any undue irritation from it, I have found that the salt came from this firm.

In some cases the diarrhœa continues from weakness, and the child seems too depressed for the reparative process to be established. Tonics are then required, such as brucine, quinine wine, and iron. A chalybeate water will sometimes be well-borne, when the druggists' martial resources fail. In the case of delicate children, such a water is a valuable prophylactic.

What of the diet? Dr. Christopher has recently discussed this question from his standpoint as a physiological chemist, and that so admirably that I will refer my readers to his paper, reproduced on another page. When albuminous food is required, we can choose between raw beef, raw white of an egg, milk with rennet (junket) and whey. Beef tea is apt to open the bowels; if used at all, it should be rendered nutritious by the addition of powdered beef. But if albumen be forbidden, as Christopher declares, we must fall back on one of the other dietary principles. Carbohydrates may be given in the form of arrow-root, rice, barley-water, tapioca, boiled flour-ball, sago or corn-starch. The best of all is zwieback, scalded with boiling water. This article is prepared by the Vienna bakery, and by Angers; but by far the best is to be found at a little shop on Franklin street near Wood, kept by an aged German named Prader. The zwieback must be kept in a tightly-closed tin box, or it will soon become musty. When it begins to soften, it should not be used. Each piece should be heated in the oven just before it is given to the child. Malt is a valuable food for infants in summer, and has the added merit of being cheap. Malt may be obtained of the brewers; the grains should be beaten in a mortar and the bran removed by a sieve. The flour may then be prepared as wheat flour or the ordinary starches.

But if we stop the albumen on account of fetid stools and ptomaine formation, and the carbohydrates on account of sourness from lactic acid fermentation, we need not reduce the baby to actual starvation either. We still have the oils and the fruits. Whether a child could take and retain fresh melted butter, cream, cod-liver oil emulsion, or almond oil, I am not prepared to say, only that children while in good health, will assimilate more oleaginous matter than adults. But their skins can, and often do, take up notable quantities of lanoline or other animal oils, especially if rubbed in while hot. The benefit of this procedure is in direct proportion to the exhaustion of the child. It is an expedient that is not to be neglected; especially as it assists in enabling us to give the digestive organs a rest.

As to fruits. Have we not all heard of the mother who fed her sick child with peaches, and saved it from summer complaint and a doctor who persisted in feeding it on a mistaken theory? Such cases do occur, and are not to be accounted for altogether on the theory of special providential dispensations. The pure fruit juices, freshly pressed from sound, ripe fruit, deserve a place in the diet of summer complaint. The bad name given to fruit has been mainly from the use of unripe or spoiled specimens. Fruit is also employed by many as a laxative food. A little investigation will show that fruit will assist in regulating the bowels, by producing natural, healthy evacuations; but by increasing the dose, purgation is not produced. It is not, then, a cathartic, but a stimulant of the normal intestinal secretions; and as such is not contra-indicated in summer complaint. Grape-juice is perhaps the best and most easily obtained. The grapes should be carefully selected, perfectly ripe, but not overripe; they should be clean, and the expressed juice should be given in teaspoonful doses, increasing as it is well borne, to larger quantities. The juice of blackberries, peaches, pineapples, oranges, shaddocks, etc., may be similarly employed. These fruits need not be given raw, but when well stewed, the juices can be freely administered.

But what are all these things worth, if the hygiene of the child's home be not first made right? The most elaborate care, the most scientific medication, are of little avail if every breath of air that enters the child's room be laden with the poisonous effluvia from a filthy alley, gutter or cess pool; if pestilential vapors rise from a forgotten muck-heap in the cellar, or sewer-gas is allowed to penetrate to the house by "jerry" plumbing.

DR. W. C. ABBOTT'S dosimetric granules have been used by several members of our staff. The granules have proved reliable in every respect; uniform, well made, and of full strength. The system is popular with patients.

CHOOSE A SPECIALTY AND GIVE THE YOUNG DOCTORS A CHANCE.

By NEVIN B. SHADE, M.D.,
PHILADELPHIA, PA.

EVERY physician who arrives at the age of, say, from thirty-five to forty should be able to choose a specialty and limit himself to said specialty, except in cases when he is desired in consultation. This would be a great epoch in medicine, and the dawning of a new era in the medical world, which would bring about greater harmony and lead us out into unexplored fields of medical science. We should be abreast of the present age. The age of steam and electricity has far surpassed the science of medicine. It should not be so. Where are our forefathers? They have passed from the stage of action and left behind them deeds of honor, paths of pleasantness to walk in, in following our worthy calling. But do we imitate them in progressiveness, wideness of intellect, aggressive in thought and research? Have we not brains as well as they? (I say this with all due respect.) Did they not intend that we should take their achievements by the forelock and go on and possess greater knowledge, achieve greater success in the pathology of disease and application of remedies. Are we catering to the wants and demands of suffering humanity? Certainly, we are advancing, but still too slowly. Too much time is being occupied in discussing etiquette, and jealousy and envy run riot throughout the profession.

If all the physicians above thirty-five or forty years of age were limited to a specialty (except when called in consultation), there would not be so much fear of losing a family, because the physician called in consultation is a specialist and would not take routine or general practice. This would be a safeguard to the family physician.

Then again, there would be no occasion for the physician called in consultation to say or to do something unprofessional to prejudice the family against their physician.

It seems so strange that so many physicians seem to want the "whole earth," and the young M.D. must be satisfied with what falls from his neighbor's table.

This condition of things fosters narrowness, selfishness and a constant fight for "bread and butter" on the part of at least ninety per cent. of our noble profession. The signs of the times, the progressive age in which we live, calls for an advance step in many respects. We must get out of the ruts that keep so many in each other's footsteps with contentment, and hinder a bold aggressive spirit in our ranks, trusting without our own research, thought or judgment in others, regardless of the fact that it is "human to err," and a great blunder to follow others, only in the principles of medicine and surgery as far as our own experience and judgment will endorse. We should not fear to be original in thought and fearless in expressing our views which are corroborated by our own knowledge and experience. When this is done in an honest effort, good is always bound to follow.

Unless something is done soon, printers' ink will lead still more aggressive men out of our ranks into a field that assures success to the man who has "snap and get-up," and where his "bread and butter" is assured. I verily believe some are driven from the ranks into quackery, because they have been snubbed and a cold shoulder turned them.

But, if the physicians under forty did the general routine practice, and those at forty and upwards did the special work and consultations, it would be a great stride toward harmony and general satisfaction, which would encourage an aggressive spirit, as well as keep the wolf from the door of the humblest "Doctorem in arte medendi." Will all who favor my suggestions drop a card to that effect to the editor of THE TIMES AND REGISTER? Let us hear from you if you have any suggestions to make.

1314 ARCH STREET.

A REFRESHING BEVERAGE.—Bamberger (*Formulaire de la Fac. de Méd. de Vienne*) suggests the following potion to quench the thirst of pneumonia patients:

℞.—Acidi phosphorici..... 8 grams. (ʒij).
Syrup rubi idæi..... 90 grams. (ʒiij).
M.—Sig. To be taken in water.

℞.—Potassii bitartratis..... 8 grams. (ʒij).
Syrupi rubi idæi..... 40 grams. (ʒx).
Aquæ..... 400 grams. (ʒxiiss)
M.—Sig. Use as a refreshing drink.

—*Le Progrès Médical*, February 6, 1892, p. 109.—*Med. and Surg. Reporter.*

The Times and Register

A Weekly Journal of Medicine and Surgery.

WM. F. WAUGH, A.M., M.D., Managing Editor.

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A CHAPTER ON HYGIENE.

OUR text to-day is hygiene. An old story, a very trite one, concerning which all that can be said has already been said, times innumerable. But how many persons really understand the subject? Very, very few. Doctors speak glibly of "good hygiene," as they do of "light, farinaceous diet," attaching as little real significance to the words in one case as the other. It is a pity that some one does not rise up to assail the principles of hygiene, as the anti vaccinationists berate Jenner; for agitation begets knowledge, and by discussing hygienic subjects they are removed from the realm of the abstract. The greatest good that an enlightened board of education could accomplish would be the introduction of the study of hygiene in the schools, rendered practical by personal inspection of the school buildings, houses, courts, alleys, gutters, cesspools, and yards of the neighborhood.

After six months' experience at sanitary inspecting, the writer is prepared to say that this study might well begin with the medical profession. Not one doctor in fifty makes out properly a report of contagious disease. The law commands that the report shall be made out as soon as the diagnosis has been determined. According to the records of the health office, some of our city physicians have a death rate of 100 per cent. in all contagious affections, and they are incapable of making a diagnosis until after the death of the patient. Many report their cases only after they have recovered, and when the inspector pays his visit he finds that the children have been attending public places, especially Sunday-schools, during the whole period of their relatives' illness. Scarcely a day passes when among the reports there is not one or more in which the doctor has given the wrong address, and the inspector takes a long journey to find the location given in an empty lot, a grave-yard, or a school-house. Out of all the physicians in Philadelphia practising south of Vine street, only three have ever been known to fill in the indorsements on the back of the report; while as to the ward, not one-half give it, although this is a matter of importance, as there may be several streets bearing the same name, and without the number of the ward one has to guess by the doctor's address in what part of the city his patient is most likely to reside, or lose some days in corresponding with the delinquent. Occasionally, when an obscure street is given, the doctor takes the trouble to locate it, as between streets that are better known. We never note this little attention without feeling that we would like to become acquainted with the gentleman who so kindly thinks of the difficulties of a stranger.

One line in the official report asks if the sanitary condition of the house requires an official visit. Scarcely any one ever takes the trouble to answer this question intelligently. In one case the physician stated that no visit was needed, but an investigation showed a child dead with diphtheria, no isolation, the other five children attending the public schools; the cellar so wet as to be almost unfit for use;

the walls so damp that no paper would adhere to them, and the privy full to the level of the seat, and leaking into the alley. Such cases, perhaps not so extreme, occur every day, so frequently, indeed, that the inspector is compelled to disregard this part of the report and visit every case.

We once excused these little derelictions on the ground that the hard-worked doctor, whose mind is fully occupied with the momentous questions of life and death, should not be held to strict account for these lapses; as when he forgets to give his patient's name or address, or his own, or the disease, or locates Johnny Green in 452 S. Front street, when he means Jimmy Brown at 352 N. Second street, etc.; but we have also noticed that the busiest doctors are those who are most accurate in their reports. There is one, who has reported more cases than any other, who *always* endorses his reports, *always* gives the correct name and address, *always* gives his nurses careful instruction in disinfection and isolation, *always* forbids the other children attending school, and *always* gives a report on the condition of the house that is verified by the official visit. In a word, he takes time to do this official work in a faultless manner; and yet he is said to have the largest practice in Southern Philadelphia.

It is not the press of business that interferes with the proper reporting of contagious diseases, but carelessness; the slovenly habit that many doctors display about their business affairs.

During the past six months the writer has visited about 2,000 cases of scarlatina, diphtheria and typhoid fever. These have been attended by doctors good, bad and indifferent; the treatment has, assuredly, been varied in the extreme. Great care has been taken to note the special circumstances that determine malignancy or fatality, and the conclusion reached is that in 95 per cent. of the cases their severity depends upon the hygienic condition of the house and its surroundings. Given a malignant case, and there will be found a wet cellar, an over-filled cesspool, heaps of filth in cellar, yard, or alley, a cesspool leaking into the cellar, paving broken into holes that cannot be kept clean, or some other equally obvious nuisance. Many of the alleys are paved with brick, laid down on the clay. These are soon trampled down into holes where the dirt settles; and they cannot be kept clean without constant work. If people only knew the comfort of a well-cemented alley, and the ease with which it can be kept clean, they would not put up with anything else.

In several cases the cause of malignancy was obscure until the floor of the back kitchen was examined, and under this was found a bed of black, foul-smelling matter.

During the winter and spring the alleys were the most fruitful sources of trouble, but with the advent of hot weather the gutters have attained a malodorous distinction. In many of the smaller streets the gutters are filled with a green, stagnant mass, fermenting under the broiling sun. Little children wade in these foul places, and stir up the black mud at the bottom. Diphtheria appears to be especially connected with this condition of the alleys and gutters.

The remedy for these must be found by the people themselves. It is of little use for the Board of Health to clean out an alley, when in a week it will be as foul as ever. An alley once reported as filthy should be inspected regularly thereafter, and every householder allowing his portion to be dirty should be notified and fined. The gutters should be flushed and swept down every day. It is folly to depend on the authorities, who can only move slowly and with due respect to the legal limitations, for the children may die while the red tape is being unwound. If the inlets are choked and paving broken, use all proper means to have them put in order, but do not wait for this to be done. If each intelligent citizen were to put his own premises in order and see that his neighbor did the same, the death rate of the city would drop, and the parents of little babes could look with equanimity on the approach of the dog-days.

For there can be no shadow of a doubt that these unhygienic conditions that determine malignancy in the infectious diseases are also the causes of mortality from the summer complaint. Heat has its influence, and yet little children withstand the effects of excessive heat as well, or better, than adults. Improper food has much to do with the production of summer diarrhœas, yet the human stomach, even of babes, is marvelous in its power of dealing with noxious ingesta. But, given the blazing heat of summer, arousing to life all sorts of microscopic races, with beds of filth in which they can develop into malignancy, and food in that stage of decomposition that renders it the fittest vehicle for conveying virulent infusoria to the child's digestive organs, and also of inducing such morbid action there as will lessen the child's power to resist these morbific influences, and you have there the whole etiology of the summer complaint.

Annotation.

HOT WEATHER HINTS.

MUCH of the intestinal trouble prevailing during the summer is to be attributed to the excessive use of fluids, especially when iced. It is so natural to run to the water-cooler as soon as one rises, and to wash down the breakfast with copious draughts of iced tea or milk. By the time one is half way to his office he is drenched with perspiration and ready to imbibe anything drinkable. The day is spent in swilling soda-water, ice-cream and similar trash, that destroy the appetite and weaken the sufferer by the profuse perspiration that drains away his salt. The consequence is an acute indigestion, or "bilious attack," or perhaps heat exhaustion, so often mistaken for sunstroke. The way to be comfortable in hot weather is to be very sparing in the use of fluids, relieving thirst by resisting it, when, like the devil, it will flee from you.

For the little ones, clothe them in a single garment that can easily be slipped off, and place a large tub of water in the middle of the nursery. Then go away, and they will do the rest.

Letters to the Editor.

CHOLERA INFANTUM.

AT your request I send you the following notes on cholera infantum. As the symptoms of this disease are so well known to the profession generally, I will have nothing to say in regard to them, and as the etiology is so obscure, it will be useless for me to explain it further than to say that I think the hot weather is the determining cause. As to treatment, there is a host of drugs recommended, among them being calomel, bismuth, arsenite copper, opium and ipecac. I regard minute doses of calomel and ipecac every ten or fifteen minutes a very efficient remedy in this disease. Bismuth subnitrate also has proven of value. Arsenite of copper has been a complete failure in my hands, while some of my neighboring physicians report good results from it. Chloranodyne (P. D. & Co.) in one-drop doses every fifteen minutes until vomiting is relieved, is one of the most valuable remedies that I have used for young children. Dr. R. A. McLean recommends the following prescription:

℞.—Tr. veratri vir..... gtt. iv
Aquæ..... ℥ij
Sig. Teaspoonful to a child one year old every ten minutes.

I have only used the remedy in two cases, both of which recovered. I would be glad if some of the brethren would give it a trial and report the results. Salol is a remedy that I have had no personal experience with, but good results seem to follow its use in other hands, and I expect to give it a trial the first opportunity. Opium I regard as unsafe, and rarely ever use it with children under one year old. When the hydrocephaloid stage is reached, the following prescription of Dr. J. Lewis Smith's seems to be of value:

℞.—Tr. calumbæ..... ℥ij
Liq. ferri nitratis..... gtt. xviij
Syrupi..... ℥ij
M.—Sig. Teaspoonful at a dose.

Last, but not least, strict attention must be given to the diet, especially if the child is bottle fed.

W. E. WILSON, M.D.

IN my practice I encounter my proportion of these cases, and am in the habit of administering calomel in from a tenth to one-half grain doses, according to the

age of the child, and then following this up with subnitrate of bismuth, with very good results, as a rule. Of course, I always set about to remove the exciting cause of the trouble first of all. When I have said this much I have said about all I have to say on the subject.

L. S. COLTER, M.D.

CINCINNATI, OHIO.

Book Notices.

The Railway Age publishes THE RAILWAY OFFICIALS' DIRECTORY (formerly called "The Supply Men's Directory) containing the addresses of Chairman of Boards, Presidents, General Managers, General Superintendents, Purchasing Agents, Chief Engineers, Superintendents of Motive Power, Master Mechanics and Master Car Builders of all roads in the United States, Canada and Mexico.

ANNUAL OF THE UNIVERSAL MEDICAL SCIENCES. A yearly report of the progress of the general sanitary science throughout the world. Edited by CHARLES E. SAJOIS, M.D. The F. A. Davis Co., publishers, 1892.

The Annual for 1892 does not differ materially from its predecessors. There is no other digest of the medical literature of the world that can compare with it.

THE SCIENCE AND ART OF MIDWIFERY. By W. T. LUSK, A.M., M.D. New edition. Revised and enlarged, with numerous illustrations. New York: D. Appleton & Co., 1892.

The rapidity with which the foundations of our science are being torn out and replaced is evidenced by the fact that this standard work, whose last preceding edition appeared in 1885, has now been entirely rewritten, making it, as the author says, "essentially a new book." The work, therefore, retains its position as a trustworthy text-book of midwifery.

THE DIAGNOSIS OF DISEASES OF THE NERVOUS SYSTEM. A manual for students and practitioners. By CHRISTIAN A. HERTER, M.D. G. P. Putnam's Sons, 1892.

A very good condensed manual of nervous diseases; clear and explicit without being wordy.

VARICOCELE AND ITS TREATMENT. By G. FRANK LYDSTON, M.D. With illustrations. Chicago: W. T. Keener, 1892.

In this volume Dr. Lydston has brought together all that has been presented of value on this subject, illustrated from his own very large experience.

CEREBRAL MENINGITIS. By M. W. BARR, M.D., 1892. Geo. S. Davis, Detroit, Mich. Price, paper, 25 cents.

THE SCALPEL appears as the organ of the Chicago College of Physicians and Surgeons; a monthly, beginning in June, 1892, and edited by Louis J. Mitchell, M.D. It is devoted to college work and college gossip.

THE PRESCRIBERS' PHARMACOPŒIA. Second edition. 1892. Kemp & Co., Ltd., Bombay.

This very useful little book comes to us from India. Although printed so far from the centers of Western culture, it is none the less valuable, as the data in it could not have been better selected or more conveniently arranged. All the new drugs are included, and the copious therapeutic index is especially to be commended.

The Medical Digest.

CHOLERA INFANTUM.—

℞.—Naphthalini ..... gr. xx-lxx
Ol. bergamot ..... gtt. i-ij—M.
Et ft. chart. No. xii.
Sig. One powder every two or three hours.
—*Holt.*

℞.—Acid sulphuric aromat. ..... ♏xxiv
Liq. morphiæ sulphat. ..... f℥j
Elix. curacoæ ..... f℥ij
Aquæ ..... q. s. ad f℥iij.—M.
Sig. Teaspoonful every three hours for a child one year old.
—*Goodhart and Starr.*

℞.—Hydrarg. cum cretæ ..... gr. ij.
Sacch. lactis ..... gr. x.—M.
Et ft. chart. No. xii.
Sig. One powder every hour.
—*Ringer.*

℞.—Acid. sulph. aromat. ..... gtt. xxiv
Ol. caryophylli ..... ♏viij
Tr. opii camph. ..... f℥j
Spt. chloroform ..... gtt. xlviij
Syr. zingiberis ..... q. s. ad f℥iij—M.
Sig. Teaspoonful every two hours for a child of one year.
—*Hare.*

℞.—Hydrarg. chlorid. nit. ..... gr. j.
Cretæ prep. ..... gr. xxxvj
Plumbi acetat. ..... gr. xij
Pulv. ipecac. ..... gr. iij—M.
In chart. No. xii div.
Sig. One every three hours.
—*Condie.*

℞.—Tinct. cocæ (1-5) ..... f℥j
Sig. Four to six drops every two hours at three months of age. Fifteen to twenty drops in older children.
—*Diederichs.*

℞.—Hydrargyri cum creta..... gr. ij
Bismuthi subnitratis ..... gr. xxiv
Pulveris nucis myristicæ.... gr. ij
Misce et divide in chartulas xii.
Sig. One powder every two hours.
—*R. A. F. Penrose.*

℞.—Resorcin..... gr. viij–xl
Syr. aurantii cort..... f℥j
Aquæ aurantii flor.....ad f℥ij–M.
Sig A teaspoonful every two hours.
—*Fliesburg.*

℞.—Saloli..... gr. vj.
Sacchari lactis..... gr. x—M.
In pulv. No. xii div.
Sig. A powder every two hours. (For a child aged six months. Between five and ten years old, three grains of salol may be taken every two hours.)
—*Goelet.*

THE *Medical World* publishes a special Cholera Infantum number, from which the following abstract has been taken:

J. Suydam Knox recommends: For acute dyspeptic diarrhœa, a dose of calomel (1 to 3 grains), warm enemeta, spice poultices, bismuth subnit. (gr. 2 to 3), cerium oxalate (gr. ¼) and Dover's powder (gr. $\frac{1}{10}$), each hour till better. At first no food, but alcohol; later, egg-albumen, etc.

For thermal diarrhœa, cool bath, bromides and chloral; stimulants and antipyretics as required.

For cholera infantum, alcohol, morphine or atropine, hypodermically; by the mouth 15 to 20 drops of a $\frac{1}{100}$ solution mercury bichloride, every 15 minutes. Baths for fever.

J. A. Larrabee speaks of the good effects of morphine and atropine hypodermics in cholera morbus, and urges their use in cholera infantum. His claims are, the certainty of dose and effect, and the reserve of the stomach for food and water. As soon as reaction occurs, he gives small doses of calomel, lime water and carbolic acid, and a diet of toast-water exclusively.

Woodbury says: There are several popular errors with reference to hot-weather diarrhœas in infants.

1st Error. It is a common but erroneous belief that summer complaint, as it is called, is due directly to increased atmospheric temperature, and is peculiarly and exclusively a hot-weather disease.

2d Error. The assumption that bowel disorder occurring in infants during hot weather is due to a single cause, or always due to the same combination of causes, is not warranted by experience.

3d Error. The idea that infantile diarrhœa is a disease of closely built cities and of crowded communities, and does not exist in suburban or rural life is a common mistake.

The treatment is not for diarrhœa, for cholera infantum, or for summer complaint. The mistake is frequently made of simply prescribing sedatives and astringents as in the functional diarrhœa of adults. This treatment in infants yields the worst results and is generally followed by the death of the patient. Both opium and vegetable astringents are highly dangerous in the treatment of young infants with diarrhœa. The child should be comfortably clad in clean rather loose garments, and should be protected from not only extreme heat, but from chilling by draughts, night-air, etc. The child does not suffer directly from the effects of the heat but indirectly, and chilling of the surface is more to be feared than an external temperature of from 98° to 100°, which, by the way, is the temperature normal to the infant when folded in its mother's arms with its head upon her breast. As a measure of safety, the baby should wear a flannel bandage covering its stomach and protecting from sudden chill. If there is a dry, hot skin, the child may be put in a tepid bath, or simply sponged with warm water, once or several times daily.

The feeding is of the highest importance. To some infants, a teaspoonful only of sterilized milk may be given every quarter or half an hour, others will bear larger quantities at regular intervals of from two to six hours. In this connection it should be borne in mind that summer diarrhœa is often due to over-feeding, and especially too-frequent feeding. During the attack, it is of service to restrict the quantity of milk, or to suspend it altogether for a time, and simply administer albumen of egg diffused in water and slightly sweetened with white sugar. Arrow root or ice water may be given; but no water unless previously sterilized by boiling. If the patient is very restless, and there are frequent passages, enemata of boiled starch, of about the consistency of syrup, may be used, containing a few grains of chloral and bromide of potassium or of sodium. Large enemata of warm water (irrigation of the bowel) are signally useful; good results have also been reported from washing out

the stomach with warm sterilized water. The medicinal treatment proper, or the treatment by drugs, occupies a place secondary to the hygienic treatment. Where there is distinctly a cause of irritation in the contents of the bowel, or there is poisoning by tyrotoxicon, the administration of castor oil or a saline purge is the first step. If there is only indigestible food, the syrup of rhubarb is a safe and efficient remedy. The bowels being clear, due attention should be paid to the diet in order to keep them so. Where there is collapse or great feebleness, some stimulant is necessary, and old brandy or whiskey is very useful if carefully administered in 10 or 15-drop doses. Bovinine, which contains 10 per cent. of old Bourbon whiskey, is especially serviceable in treating infants with summer diarrhœa or so-called cholera infantum. A good wine of coca is often very happy in its effects on young children, as in adults, suffering with disordered digestion. Pepsin acts as a sedative to the stomach and aids in nourishing the child by facilitating digestion. Pepsin and bismuth, in small doses, control vomiting. Where the diet is milk (properly diluted and always sterilized), calf pepsin in the form of glycerite of calf pepsin is highly valuable; it should be administered immediately after the bottle has been taken. Where there is intestinal indigestion and irritation, with green, slimy stools, papoid with bicarbonate of soda has a prompt effect. In order to prevent fermentation of the contents of the gastro intestinal tract, salol is used with advantage in minute doses, or salicylic acid with the addition of sodium bicarbonate and bismuth, if desired. The addition of a very small amount of aromatic powder as a carminative is useful.

With regard to arsenic or arsenite of copper, corrosive sublimate, calomel, and other remedies of this class, while admitting the fact that they have been reported to be curative in skilful hands, the occasion rarely arises in my opinion where it is prudent or safe to use them. In fact, as already intimated in this brief paper, the chief idea in treating cases of so-called cholera infantum, should be the prophylactic and hygienic management—pure air, properly prepared food, attention to the skin, avoiding extremes of temperature or sudden changes from heat to cold —rather than any reliance upon any drug or combination of drugs.

When the source of the attack clearly resides in a polluted atmosphere, it is scarcely necessary to add that it is of primary importance to substitute for it the purer air of the country, the mountains or the sea-shore. If this is out of the question, we may, at least, give the little patients a chance for life by taking them out frequently on the river or to the various parks.

W. J. Maddox recommends aconite and niter for fever; sulphocarbolate of zinc, bismuth and pepsin for the diarrhœa, and camphor for the collapse.

W. J. Craigen gives calomel and cerium to check vomiting; bismuth and paregoric for diarrhœa, and salicylate of soda for fetid stools.

W. T. Coggin renders the bowel aseptic by the use of castor oil, carbolic acid and corrosive sublimate.

G. H. Marshall bathes and swathes his patients in a decoction of hickory leaves.

G. W. West relies on bismuth and carbolic acid.

W. C. Abbott employs arsenite of copper, zinc sulphocarbolate or calcium sulphide as antiseptics, with brucine, strychnine and phosphoric acid as stimulants.

W. C. Cline gives corrosive sublimate, followed by copper arsenite, salol or bismuth.

J. Spalding prefers heavy magnesia, with hyd. cum creta, and pure olive oil as a laxative.

C. C. Pike sprays the child's throat and mouth hourly with bichloride, 1 to 1,000.

FOR SUMMER DIARRHŒA.—

℞.—Pepsin pulv..... gr. ¼
Bismuth subnit..... gr. ija gr. iij
Ext. nucis vom. pulv..... gr. ⅛
Sulpho-carbolat. zinc..... gr. ij
Carb. animal..... gr. ¼
For one tablet or capsule.

—*D. H. Bartine.*

THE treatment of the green diarrhœa of infants with lactic acid, instituted by Hayem, of Paris, has proven quite successful. The following is Hayem's formula:

℞.—Lactic acid..... 2 grammes
Syrup..... 98 grammes
Essence of citron..... 1 drop.
Dose, one tablespoonful, frequently repeated. This makes a two per cent. solution.

TREATMENT OF SUMMER DIARRHŒA IN CHILDREN.—At the onset of bowel

trouble give ʒiss of castor oil to clear out the bowels thoroughly, and after every movement following that caused by the oil, give a teaspoonful of the following mixture:

℞.—Bismuth. subnit..... gr. cccxx
Acid. carbolic..... }
Spt. menth. pip..... } āā mx.
Tinct. capsici..... }
Spt. camphor..... }
Syr. simplic,
Aq. cinnamon.....āā q. s. ad ʒviij.

If movements are very frequent, the same dose may be given every two hours. When temperature rules over 102° F., and patient is pretty strong, give acetanilid gr. iss every three hours. I have observed that the antipyretic effects of this drug last almost exactly three hours in children. If patient is weak, lower the temperature by sponge baths, and where fever runs below 102° F., substitute for these, aconite gr. $\frac{1}{16}$, ever hour. Spirit. frumenti is necessary in small, frequent doses where exhaustion supervenes. Give every morning and evening, with soft rubber catheter, a high irrigation of starch-water, warm, to which is added ʒss soda bicarb. to the pint.

Children usually cry a great deal, and it is the natural thing for the mother or nurse to give them their accustomed food to stop them. This must not be allowed. They are inclined to drink greedily and overload their already weakened stomachs, and aggravate their trouble. It is best to feed them at their accustomed times only, and give them the plain, cool, boiled water to quench their thirst. Plenty of fresh air is desirable, and a cool, even temperature is best. Upon very hot days it is well to remove the ordinary clothes and put on a light flannel night-dress, guarding against sudden changes of temperature, of course. I have tried other plans, but this gave very satisfactory results.

—Alice McLean Ross, M.D., *Med. and Surg. Reporter.*

Insomnia of Summer Diarrhœa.—In the summer diarrhœa of young children, whatever mode of treatment may be pursued, there usually arises in the later stage of the disease a condition of extreme restlessness, alternating with semi-conscious dozing, with the eyes partly closed. It is recognized that a few hours of actual sleep would be a boon. It is not a condition that invites the use of opiates. More than once have I known the following to mark the turning-point of the case for the better:

℞.—Kali bromide..... gr. xij
Chloral hydrat..... gr. xvj
Glycerine..... dr. j
Aquæ carni..... dr. vij
M.—Sig One tablespoonful hourly, to three doses, if needed.

—Benj. Edson, M.D., of Brooklyn, N. Y., in *The Medical World* for Oct., 1891.

The Treatment of Infantile Diarrhœa of Warm Countries.—Dr. F. Roux divides the diarrhœas into four classes:

1. Simple catarrhal enteritis, frequently developed by cold, requires only rest, restricted diet, soothing applications to the abdomen, and graduated doses of paregoric.

2. Diarrhœa dependent upon digestive insufficiency, requires a small amount of magnesia in a half-glass of Vichy (St. Yorre) as a purgative, a milk diet, and soups devoid of fat. If the stools are offensive, a powder consisting of the equal parts of the salicylates of bismuth and magnesia; naphthol being here contra-indicated because of the irritation which it produces. The return to the ordinary diet must be gradual, and before each meal he directs small doses of nux vomica, rhubarb, anise seed, and calumba, in a claret glass of Vichy or Vals. During the meals hydrochloric acid, and afterward pepsin, diastase and pancreatin. He counteracts diarrhœa and vomiting by opium, the constipation by rhubarb.

3. The diarrhœa that follows dysentery calls for enemata of boric acid, nitrate of silver, or tincture of iodine, and the prescribing of a strict diet.

4. In true tropical diarrhœa the small intestine is the seat of disease, and it is necessary to insist upon intestinal antisepsis, salicylate of bismuth, sulphocarbonated water, enemata of boric acid, or, better, of borated infusion of eucalyptus, with abdominal counter-irritation, as by tincture of iodine, or gentle frictions with flannel moistened with turpentine. The only method of satisfactory cure consists in an absolute milk diet, to which is added lime-water or Vichy-salt. As soon as the stools are formed, beef tea, peptones, slightly cooked white of egg and raw beef, eggs and milk, and, last of all, rice in

milk can be tried. At all times remedies which assist digestion must be employed, while wine and every form of alcohol is absolutely prohibited. When the disease is cured, it is necessary for a long time to watch over the diet, and use remedies that build up the general condition.

—*Revue Générale de Clinique et de Thérapeutique*, 1892, No. 9, p. 137.—*Am. Med. Jour. Sciences.*

SULPHO-CARBOLATE OF ZINC.—In anticipation of the approach of the summer months, with the usual train of bowel troubles and consequent mortality, I desire to invite attention to zinc sulpho-carbolate as a gastro-intestinal antiseptic. In every class of remedies there will be found one superior to the others, in which you place greater confidence because of the greater certainty of its action—in a word, its specificness. Such an one is the sulpho-carbolate. Because of the ease with which it is taken, because of its freedom from toxic properties, and because it will certainly and effectively either destroy or render powerless those agencies whose activity develops diarrhœas, dysenteries, entero-colitis, cholera infantum, and by their absorption, typhoid fever and numerous blood dyscrasias, it should be universally adopted by physicians.

Let the first case of summer complaint be treated with sulpho-carbolate, using the following:

℞.—Zinci sulpho-carbolatis,
gr. xxiv vel xxxvj
Sac. lactis..... ℥j
M. et div. in chart No. xxiv. Sig. One powder every three or four hours till stools lose offensive smell and character.

This will be adapted to a child a year old. To older children, larger doses must be given. Frequently this, without other treatment, will answer the purpose. Of course, in all cases, and especially in grave ones, due attention should be paid to alimentation. Except to infants who nurse a healthy mother, and sometimes even to them, milk should be denied. Give the white of an egg beat up in water, or iced water, sweetened or not, scraped beef tenderloin, well seasoned broths, or some one of the best artificially prepared foods. Milk must be excluded, as it is one of the most prolific culture fields for disease-producing germs.

—R. B. McCall, *Med. Summary.*

SALICYLATE OF BISMUTH IN INFANTILE DIARRHŒA. (*Obozreniĕ*, No. 6, 1892.) Mikhnevitch, having tried the salicylate of bismuth in fifty cases of diarrhœa in infants under two years of age, reports that of the number only two died (a boy of eight months with pelvic suppuration consecutive to intractable colitis, and an infant of five months, born prematurely, and exceedingly sickly since its birth). The following formula is recommended:

℞.—Bismuthi salicylici..... gr. xxiv.
Gummi arabici..... ℥j
Sacch. albi..... ℥jss
Terendo adde aq. dest..... ℥ij
Fiat lac, tum adde aq. dest... ℥iv.
M.—S. The bottle to be kept in cold water or ice, and to be shaken well before use. One or two teaspoonsfuls to be given from three to six times daily.

Each teaspoonful of the mixture contains about ½-grain of the salicylate, which constitutes a normal dose (three or four times daily) for an infant of from six to eight months old. In cases of offensive diarrhœa the administration should be preceded by a dose of castor oil. The bismuth salt should be given regularly until the diarrhœa has completely subsided. It must be kept in mind, however, that in large doses the remedy is apt to induce perspiration with consecutive weakness (especially in exhausted children), hence a corresponding reduction of the dose may become necessary. In acute cases the remedy is useless, but in all of a week's standing or longer its effects are said to be excellent.—*Brit. Med. Jour.*

ILEO COLITIS.—Van Goidtsnoven has obtained most satisfactory results from the following:

℞.—Hydrarg. chlorid. nit. ..... gr. j
Bismuth salicylat.....
Salol.....
Pulv. carbo ligni..... āā gr. xii
Div. in chart. No. xii.
M.—Sig. One powder every four hours.

Antiseptic irrigation of the bowels is also to be employed.—*South. Med. Record.*

THE TREATMENT OF HILL DIARRHŒA.—Altitude affects blood-pressure, and hence the secretions of the body. Intestinal fluxes are often due to this altitude effect upon blood-pressure. In the *Lancet* we find the following abstract of an interesting article in the May number of the *Indian Medical Gazette* on this subject, by Surgeon Lieut.-Colonel A. Com-

bie, M.D., the surgeon superintendent of the General Hospital, Calcutta. He says that every cold winter he sees a number of patients who give the history of having suffered from hill diarrhœa during the previous summer; but who, in detailing the treatment which they have received, do not mention the remedies which have been found to be very efficacious in his own experience and in that of others. Without going minutely into the causes of hill, diarrhœa it may suffice to say that it is a disease liable to occur at hill stations where the elevation is 6,000 feet or more above the sea level. One of its peculiarities is that, in recent cases, the diarrhœa is confined to one particular portion of the day, beginning between 3 and 5 o'clock in the morning and lasting until 9 A.M. It is a disease of adults; children under twelve years of age being very rarely affected. Many persons going from the plains of India, on reaching an elevation of 6,000, feet immediately begin to suffer from symptoms of dyspepsia and flatulent distension of the stomach and intestinal canal. These symptoms may exist with or without diarrhœa. In the former case the motions are very light in color, like whitewash, liquid and frothy. On the approach of monsoon influences the hill diarrhœa becomes an epidemic. In July, 1880, at least one-third of the population of Simla suffered from it; and had the epidemic been one of cholera instead, with its attendant mortality, it is questionable whether the survivors would have been sufficiently numerous to have buried the dead. Dr. Crombie considers that it is not a true diarrhœa, but an indigestion due to an imperfect secretion of the digestive ferments generally, including those of the bowel. The treatment consequently consists in supplying the deficiency in the secretion of these ferments, and in the administration of intestinal antiseptics to check the abnormal fermentation set up by the absence of bile and other secretions in the small intestine. The line of treatment indicated is threefold. Living at high altitudes being the principal cause of the disease, all that is necessary for its cure is a return to a lower level. In early cases this alone is sufficient to put a stop to the symptoms in twenty-four hours. In the second place, the epidemic being closely related to the monsoon influences, those liable to hill diarrhœa should leave the hills at the beginning of the rains, as is now done at Darjeeling every year. The third measure consists in the administration of pepsin, the extreme usefulness of which was accidentally discovered by Dr. John Anderson and Dr. Crombie in 1881, and in the use of perchloride of mercury, the value of which in tropical diarrhœa was recognized and pointed out by Surgeons MacPherson and Barry. Peptonized milk or 10 or 12 grains of pepsine or ingluvin two hours after food, is generally sufficient to relieve the symptoms. The solution of the perchloride of mercury is best administered ten or fifteen minutes before each meal. Dr. Crombie appends the notes of various cases in illustration of the foregoing statements.

ACUTE DYSPEPTIC DIARRHŒA.—The child may appear in its usual health, but has an increase in the number of stools, without fever or special disturbance except slight restlessness at night. After persisting for a day or two the stools become more frequent and contain undigested food and curds, and are very offensive. In other cases the disease sets in abruptly with vomiting, griping pains, and fever, which may rise rapidly and reach 104° or 105°. There may be convulsions at the outset. The abdomen is sensitive, and the child lies with the legs drawn up. The stools consist of grayish or greenish-yellow feces mixed with gas curds and portions of food. In children over two years of age, such attacks not infrequently follow eating freely of unripe fruit or the drinking of milk which has been tainted. With judicious treatment, the children improve in a few days; but relapses are not uncommon, and in the hot weather the attack may be the starting point of a severe enterocolitis. In a debilitated child a mild attack may prove fatal. This dyspeptic diarrhœa is distinguished sharply from cholera infantum by the character of the stools, which never have a watery, serous character. In many instances this form precedes the onset of the specific fevers, particularly during the hot weather.

Cholera Infantum.—This is the counterpart in the infant of the so-called choleraic diarrhœa in the adult, and in their clinical aspects these two forms are identical. It is by no means so common as the ordinary dyspeptic diarrhœa of children, according to Holt, occurs only in two or three per cent. of the cases of summer diarrhœa.

It prevails in the hot weather and in the children artificially fed, or who have had previously some slight dyspeptic derangement. It is characterized by vomiting, uncontrollable diarrhœa, and collapse. The disease sets in with vomiting, which is incessant and is excited by any attempt to take food or drink. The stools are profuse and frequent; at first fecal in character, brown or yellow in color, and finally thin, serous and watery. The stools first passed are very offensive; subsequently they are odorless. The thin, serous stools are alkaline. There is fever, but the axillary temperature may register three or more degrees below that of the rectum. From the outset there is marked prostration; the eyes are sunken, the features pinched, the fontanelle depressed, and the skin has a peculiar, ashy pallor. At first restless and excited, the child subsequently becomes heavy, dull, and listless. The tongue is coated at the onset, but subsequently becomes red and dry. As in all choleraic conditions, the thirst is insatiable; the pulse is rapid and feeble, and towards the end becomes irregular and imperceptible. Death may occur within twenty-four hours, with symptoms of collapse and great elevation of the internal temperature. Before the end the diarrhœa and vomiting may cease. In other instances the intense symptoms subside, but the child remains torpid and semi-comatose with fingers clutched, and there may be convulsions. The head may be retracted and the respirations interrupted, irregular, and of the Cheyne-Stokes type. The child may remain in this condition for some days without any signs of improvement. It was to this group of symptoms in infantile diarrhœ that Marshall-Hall gave the term "hydrencephaloid" or spurious hydrocephalus. As a rule, no changes in the brain or other organs are found, and the condition is no doubt caused by the toxic agents absorbed from the intestine. A remarkable condition of sclerema is described as a sequel of cholera infantum. The skin and subcutaneous tissues become hard and firm, and the appearance has been compared to th·t of a half-frozen cadaver.

Acute Entero-Colitis.—In this form the ileum and colon are not affected, chiefly in the lymph follicles, hence the term follicular enteritis or follicular dysentery. It occurs more frequently in warm weather, in artificially fed children; but it may set in at any season of the year, and is the form of enteritis most common as a secondary complication in the specific fevers of childhood.

The attack may follow the ordinary dyspeptic diarrhœa. The temperature increases, the stools change in character and contain traces of blood and mucus, the former usually only in streaks. The feces are passed without any pain. The abdomen is distended and tender along the line of the colon. Vomiting may be present at the outset, but is not a characteristic feature, as in cholera infantum. The diarrhœa may be gradually checked and convalescence is established in two or three weeks; in other instances the disease becomes subacute, the fever subsides, but the diarrhœa persists and the general health of the child rapidly deteriorates. The case may drag on for five or six weeks, when improvement gradually occurs or the child is carried off by a severe intercurrent attack. In a third form of acute entero-colitis, in which anatomically the lesions are those already mentioned—namely, an intense follicular inflammation—the symptoms are of a more severe character, and the affection is sometimes spoken of as acute dysentery. It attacks children up to the third or fourth year, or even older. The onset is sudden, with high fever, vomiting, frequent stools, which at first contain remnants of food and feces, and subsequently much mucus and some blood. There is incessant pain, which may be more severe than in any intestinal affection of childhood. The prostration is very great and the fatal termination may occur within forty-eight hours. More commonly the case lasts for a week or longer. In two cases of this sort, in one of which death occurred in forty-eight and in the other in sixty-four hours, the anatomical characters were those of the most acute follicular enteritis, characterized by great swelling of the lymph follicles, some of which already presented necrotic foci.—*From Osler's Practice.*

SYMPTOMATOLOGY AND TREATMENT OF SUMMER COMPLAINT.—The most prominent symptoms in summer complaint are those connected with the bowels. The diarrhœa is characterized by stools which differ from each other greatly, as to number, consistency, color, and odor. Of the several phases of the stools, the

odor is the one to which I wish to call particular attention. It is indeed remarkable with what certainty the stools may be divided by their odor into putrid stools and acid stools. Occasionally the stool will be described as having an intensified fecal odor, or smelling like old wood, but it is evident that such odors are but variations of putridity. The acid stools derive their odor from the presence in them of various members of the fatty acid group, all of which have arisen from fermentation of carbo-hydrates. The putrid stools, on the other hand, can only arise from fermentations of albuminous materials. I told you in my last lecture that we know of no poisons that can be produced by the fermentation of the carbo hydrates, alcohol excepted, that can produce symptoms on the part of the nervous system, but that all the poisons that we know of, which are capable of producing symptoms through the medium of the central nervous system, and which may be formed from foods, are nitrogenous poisons. Let me recall some of the nitrogenous poisons: Every alkaloid which a vegetable contains is a nitrogenous product; morphine, quinine, atropine, the whole long list of vegetable alkaloids contain nitrogen; the long list of animal alkaloids, the ptomaines and leucomaines, contain nitrogen; every one of the toxalbumins contains nitrogen. The stools of putrid diarrhœa are liable to contain nitrogenous poisons. Why? Because putrid products can only occur from the fermentation of nitrogenous material. It does not follow because a stool is putrid that it contains poisons, but it shows that it has been formed by the fermentation of proteids, and, therefore, probably contains poisons. If, on the other hand, it is sour, it shows that fermentation has been maintained by the carbo-hydrates, from which such poisons cannot be elaborated. Baginsky says that one stool may be sour and the next one putrid, the next one sour, and so on, from the various forms of fermentation that may go on in different parts of the intestinal canal at the same time. Theoretically this is true, but practically it is not. When we find a child passing putrid stools it continues to pass putrid stools for several days, and when it passes sour stools it continues to pass sour stools for several days. The acid form is a milder form of the trouble, it produces agents which act locally only, whereas the putrid form produces agents which act through the central nervous system, therefore if we are able to transform a putrid diarrhœa into an acid diarrhœa we eliminate certain definite sources of danger. We may have a putrid and a sour fermentation going on at the same time, the sour fermentation being masked by the more pungent odor of the putrid fermentation. But the putrid fermentation is an indication of danger. My friend, Dr. Rachford, of Newport, Ky., has called attention to the fact, that if we have fermentation of proteids with the formation of poisons, whether there happens to be putridity or not, there will be symptoms referable to the central nervous system, and, therefore, if we have such symptoms due to poisons formed in the intestinal canal, whether with or without putrid stools, we should treat the case in the same manner as I shall teach you to treat putrid stools.

We may have stools which are large and watery, we may have stools which are small and more or less coherent. The stools may be characterized by containing blood and mucus, they may be accompanied in their passage by pain, or by straining, or by bearing down, tenesmus; they may be characterized in color by being pale, or yellow, or green, or brown, but every one of these changes is referable to the variations in the fermentations in the bowel. It seems certain that the green stools of summer complaint are due to certain chromogenic bacteria, but the green stools are by no means the worst.

In many cases where the stools are green, due to the growth of certain chromogenic bacteria, we have no general systemic trouble, but on the other hand, where we have rather innocent-looking stools, nothing but a little rice-water discharge, our patient is seriously ill. In every such case of cholera infantum there has always been putrid stools at first, and they are no longer putrid, simply because everything has been washed out of the bowel. My own experience is that brown stools are the most foul in point of odor, and the most apt to be accompanied by severe symptoms on the part of the general nervous system. The variations in color are unquestionably due to the variations in growth of the micro-organisms in the intestinal canal, but may sometimes be due to the food. Mellin's food, for instance, produces a brown stool, but

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such stools are innocent. Some of these patients have fever and some have not. Why? Simply because in some instances poisons capable of producing rise in temperature are formed, in other instances poisons of this kind are not formed, so in one case we have fever and in another we do not. Fever is then purely an accidental condition. Again, we will have on the part of the brain such symptoms as convulsions. But convulsions are not due, I take it, to simply the draining away of the serum which the large number of movements has produced, but to the production of a convulsive poison, something that can produce convulsions, something like strychnine. I do not say that strychnine is elaborated in the bowel, but a poison having a somewhat similar action. Another point of importance is the question of coma in these cases. Some years ago, when I treated these cases exclusively by opium, I used occasionally to find a little one with what I considered opium poisoning. Later, after I had stopped using opium, once in awhile the same kind of case would occur. On questioning the mother I would find that no opium had been given outside of my direction, and something else must be at fault. I see several such cases every year, characterized by contracted pupils, stupors, sometimes coma, by slow respiration and slow pulse. Now, there has been formed in the bowel of that child a poison which acts like opium and produces these symptoms. How shall we get rid of it? I have invariably given the nitrate of potash and water, and in the course of two hours, invariably profuse urination has occurred and with it all symptoms have disappeared; in other words, the poison has been washed out through the kidneys. Here, then, is one set of symptoms which is evidently produced, so far as clinical information can teach us, from something developed in the bowel. Again, we have patients troubled with insomnia, and it is likely that this sleeplessness is caused by poisons produced in the same general way. Now, let us take up the question of depression, for that is the most important one. Our little patient is weak, the fontanelle has sunken, the eyes have sunken, the skin is cold and the pulse indicates collapse. Now to what is that due? Is it because the baby has had four or five or a dozen stools that day? No. If you had given the baby sulphate of magnesia there would be the same loss of serum. Would the child be in that shape? No. There is another element there besides the number of stools. I believe the mere number of stools is of secondary importance. The question of loss of fluids we have been taught to think much of—too much indeed. But let us suppose we had introduced a motor depressant into this child's blood, say conium or curare, what would have happened? Almost the same condition of collapse. It is evident that the collapse has been produced by some poison, and not simply by the number of stools that have been passed. If we believe the collapse to be due wholly to the number of stools, we would most rationally proceed to stop the stools; we would give the child opium, tannic acid or anything to stop the flow from the bowels. But if it is due to a poison that has been formed in the intestine, what are we to gain by stopping the number of stools? Nothing. We may even do damage by retaining in the bowel the source of the trouble. I beg of you, then, to regard summer complaint as presenting various phases, but due entirely to poisons formed in the intestinal canal. On the other hand, we find that sour stools cannot produce poisons of this kind, but still we have movements from the bowels, and we can only explain the phenomenon on the ground that the products of acid fermentation are directly irritating to the mucous membrane of the bowel and act by locally stimulating the bowel, by locally increasing its functions. But remember that such irritations do not and cannot produce collapse; that they do not and cannot produce coma; that they do not and cannot produce convulsions; all the serious conditions are thrown to one side and only the local ones of increase in the number of stools and pain remain. Now, then, here comes in the explanation of Dr. Rachford. If these depressed conditions occur, no matter what the number of the stools may be, the trouble is due to poisons formed from nitrogenous material. If we can stop the proteid fermentation, even if we have to leave an acid fermentation, we shall make a decided gain for our patient.

Now as to the treatment proper. It consists of two general steps: first, to remove the cause; second, to repair the damage done. These two steps apply to almost any disease, but particularly to this one.

First, remove the cause. How? We have found that the cause is due to certain fermentations going on in the bowel. Let us get the poisons out of the bowel. How? By the use of laxatives first. To empty the bowel of a baby, gentlemen, is a work of art, it is not a simple thing. We can give a dose of castor oil and have a certain number of stools produced, we can give a dose of calomel and have a certain number of stools produced, but we are by no means certain that we have emptied the bowel of the child. Don't forget this point; it is exceedingly important. I shall refer to it again. My preference by way of preliminary cathartic is calomel in grain doses, four hours apart until 3 grains are taken. I give a child six months old 1 grain of calomel every four hours until it has taken three doses. Sometimes a child may be having eight or ten stools a day; you give it calomel and it will be brought back the next day with a report of four or five movements instead of the increase you had reason to expect. I cannot explain this phenomenon, but it occurs with sufficient frequency to attract attention. The actual number of stools will be diminished under the action of the cathartic, and what is more, the child will be better, irrespective of the number of stools. Sometimes the number of movements will be very much increased; the child will be having four or five a day, and after taking the calomel it will have eight or ten or more, and yet be better. I have never seen any bad results from the use of calomel, although bad results are reported under such circumstances, but I have prescribed it so many times and given it to so many babies under these circumstances that I have no hesitation in giving it in the quantity mentioned to a child six months or older; the quantity need not be increased for older children. If too large a dose is given it is simply swept out of the system, there is no such thing as giving too much in order to purge freely. But understand that the calomel empties the bowel only partially, and by no means does it always get everything out.

What shall we do next? To still further empty the bowel I would recommend the use of copious injections of water, and they can be introduced either with or without the aid of a rectal tube. The quantity of water to be put into a child's bowel is something to be considered. In one method of irrigation the water is allowed to run in and out at the same time. By that means only the lower part of the bowel can be washed. My plan is to fill the bowel with water, I want to reach the cæcum, because there is where most of the trouble lies, where the greatest amount of damage has been done, where the autopsies prove that most of the poisons have been absorbed. Because there is where we have the most ulcers, and no matter whether we have enteric disease or dysenteric disease symptomatically, the actual lesion is in that part of the colon. I put into a child a year old a quart of water at a time, and it will hold it. This seems rather a large quantity, but patient after patient I have had in my clinic, brought before the class for the distinct purpose of showing them how much water a child will hold, and it is remarkable how much they will take. I set the quart as a limit; a half gallon will nearly fill an adult's colon. But some judgment must be exercised with regard to the quantity used; if you have reasons to believe that the bowel is badly ulcerated and liable to be torn because of pressure, you should not put in such a quantity of water, but in an ordinary acute case you can put a quart in. A fountain syringe is the safest means of introducing the water. When it is in it runs out again, of course, as soon as you take away the tube. But the bowel does not completely empty itself at once. The mother will tell you that the child passes about a pint and then stops, and the remaining water will come away in about twenty minutes or half an hour. Do not put into the water you use to wash the bowels any poisonous antiseptic; do not use bichloride of mercury to wash the bowels, because you might have enough of it stay behind to produce poisonous symptoms. It is not needed; clean water is quite enough. The object of the water is to wash out the bowel and clean out the little loculi. You remember in the large bowel there are little pockets at one side, which form convenient places for fecal matter to lodge in, and when we give brisk cathartic like calomel, it strikes right past these pockets and does not clean them out; but with the slow washing out of the bowel the water will seek out these pockets, and clear out their contents. Very frequently these masses of retained feces are the sources of the poisons. This

illustrates the substantial identity of putrefactive constipation and summer diarrhœa, and justifies their being included under a single term.

Now we have gotten this bowel clean, apparently so at least, by means of the preliminary purge and the washing. So far so good, but we have only taken out of the bowel the larger mass of material there present; we have not washed it clean. You could not sterilize in that way a test tube, and much less so complicated a tract as the bowel. You have not got it clean, but you have got the bulk of the material out and you have removed the bulk of the poison, but the germs remain behind, at least enough of them to set up the trouble again. Our baby will probably seem better; some of the symptoms have disappeared, and the child is undoubtedly better, but we want to kill the germs there, we want to kill the particular germs that are producing the trouble. How can we do it? We have at our disposal a large number of intestinal antiseptics; the best among them are unquestionably calomel and bismuth. The calomel which we have originally given, acts as an antiseptic, but its action is only temporary; it does not and cannot sterilize the bowel. If we wish to use it still further as an antiseptic, we will give minute doses of one-tenth or one-twelfth of a grain every three or four hours, but the result will be only partially satisfactory. Next to that, our best antiseptic is bismuth, and to employ it successfully as an antiseptic, we must use it in massive doses. The dose of bismuth, like calomel, is not to be measured with great accuracy. I usually give a dose of ten to fifteen grains three or four times a day to a child six months or a year old. Bismuth does not produce any systemic effects, but you want to give enough to produce an effect in the intestinal canal, and two or three grains of bismuth are not enough. There is one objection to bismuth. Besides being an antiseptic, it unquestionably is, to a certain extent, an astringent. Many times I have thought the diminished number of movements following the use of bismuth were due to the curative effects of the drug, and that the poison had been destroyed, but I have reason to believe that it was really due to astringent effect of the bismuth, and this effect in the early stage of the treatment is not desirable, because it retains the poisons we want to get out. Then we have naphthalin, salol, resorcin and a whole host of drugs of that type, but they are unsatisfactory. Fortunately, we have a much better means at our disposal. Suppose we have a diarrhœa and the stools are distinctly putrid; we know there has been fermentation, and that the germs producing it are living on proteid material, so we simply keep that kind of material out of the bowel and starve the germs; there you have the keynote of the whole method of feeding. Starve the germs; do not try to get them out with chemicals, because you cannot do it. You accomplish something in that way, but you cannot kill them all. But when the child has a putrid diarrhœa, you must keep away from it all proteid material, keep away meat, fish, milk and eggs. Keep away those foods which are capable of undergoing putrefaction. Meat would not be given to a child of that age; fish would not be given to a child of that age; eggs would possibly be given, but milk would most certainly be given. Milk has been the chief diet of this child before it was taken sick, and the proteids of milk are what the germs in that intestinal canal are best adapted to live on. Above all things stop milk; that is the first thing to do when you have a putrid diarrhœa. Do not be led into giving milk because the books tell you that it is a bland and non irritating diet. That means nothing. We are not trying to save that bowel because it is in an irritated condition, but we are trying to prevent the formation of poisons, and therefore we will keep out of the bowel material from which they can be formed, and that is in this instance proteid material. Now, if we have to keep proteid material out what shall we put in? Anything which cannot support the obnoxious germs; anything which will starve them out and still be food for the child. The books tell us that in severe cases we should stop all food. If we stop all food we can certainly starve the germs, but it strikes me we are going to starve our little patient also, and put a strain upon him that is unnecessary. If we must take away meat, fish, eggs and milk, let us give him the starches and sugar. Many years ago Moore, of England, advised that these cases be fed on cane sugar exclusively. Such a diet is right, but you don't need to limit them to cane sugar; give them starches. I take a child six months old with putrid diarrhœa and give it arrow root, or rice, or

crackers, or baked potato, but not milk. But you look surprised to hear me advocate potatoes and crackers—solid food in diarrhœa. When we have the theory of this disease that I have attempted to give you, that it is not due simply to an irritated condition of the bowel, why not give solid food? I assure you, from a personal experience of several years in this matter, that solid foods act most beneficially. Milk is a solid food; it is not liquid. It is only liquid before ingestion. The first thing that happens to it in the stomach is coagulation, so that it is probably more irritating from a mucous membrane standpoint than any amount of starch. We are told these babies cannot digest starch because they have no salivary secretion and no distinct pancreatic secretion. I will admit the physiological statement that their salivary and pancreatic secretions are both deficient, but I deny the other statement. It has been assumed that because these two secretions are deficient, that infants cannot digest starch; but we all know of babies who have been given arrow root from their birth, and who have digested it perfectly. We all know that babies can and do digest starch; they do it daily. Why, there is a hardly a secretion in the body but is capable of digesting starch so that it can be absorbed. Right here I wish to be understood that I do not advocate starch as a continuous food for infants, but I am speaking of its use for temporary purposes; it does help that child along when it is poisoned; it does serve a purpose with that child when we want to take away other kinds of food, and in giving starch we have the advantage of not depriving that little one of all food. How about predigesting the starch? We do not need to predigest the starch; the great bulk of children can digest starch, particularly the small amount necessary for our purpose.

I told you that milk was bad for this condition; how about peptonized milk? Peptonized milk is worse. Why? I know some of you have used peptonized milk, and in some cases with good results, but I wish to assert that if you did get good results in those cases, you could have gotten better results in some other way. This preparation is generally bad. In the first place, it is peptonized by means of a pancreatic ferment. If you will experiment, by putting some hard boiled egg in a solution of pepsin and hydrochloric acid, and leaving it over night at the temperature of the body in a suitable oven, you will find that it has not only digested completely, but that it has a peculiar odor that is not unpleasant; but take the coagulated egg albumin and put it with trypsin in an alkaline solution, and subject it to the same conditions, and you will find, as you open the incubator, that it has a distinct fecal odor. If you leave it a few hours longer, the fecal odor will become stronger, and in a few more hours the odor will be unbearable. The mass has become putrid. Now the action of trypsin upon proteid material is to break it up in such a way that the germs of putrefaction can thrive therein. They thrive readily in the products of tryptic digestion, but not readily in the products of peptic digestion. The milk partially peptonized by this pancreatic extract, is only in a better shape to undergo putrefactive changes when it reaches the stomach and bowels. If you put it into a perfectly healthy alimentary tract, no harm will occur; but if you put it into a bowel that is already contaminated with putrefaction-producing micro-organisms, you have only helped those micro-organisms to the extent to which you have digested that food. Understand, I do not say that there are no conditions in which peptonized milk may prove useful, but am merely condemning its use in the putrid diarrhœa of infants.

Now about sterilized milk. It is practically pure so far as germs are concerned, but just as soon as the sterilized milk reaches the infected intestine, the germs there begin to develop in it; not so readily, perhaps, as in unboiled milk, but just as certainly as in any other kind of milk. Sterilized milk, therefore, is not the proper food in putrefactive diarrhœa, because it has essentially the same chemical composition as any other milk, and it is the chemical composition that is guiding us at present, and not its bacteriological condition. Sterilized milk, therefore, should be used solely as a preventive; if we start with a healthy child and feed it sterilized milk, we run that much less chance of introducing pathogenetic micro-organisms into the intestines, but after they are once there, it has no power to get them out. Milk from the mother's breast does just as much damage as milk from any other source. Other things being equal, I would rather treat an acute case of diarrhœa in

a bottle baby than in a breast baby, because I can give the bottle baby just what I want to. Frequently I would take the baby from the breast for thirty-six hours, keeping up the mother's secretions by the breast pump, and feed the baby as I would like to; but we cannot always do this, and where I cannot do it I find that I do not get as good results in treating diarrhœa in breast-fed babies as in bottle-fed babies; I cannot cure them so quickly, because I cannot feed them right. Such a procedure is only necessary in severe cases.

How long is it necessary to withhold proteid food in acute diarrhœa? Twenty-four hours will usually suffice to correct the odor of the stools; at the end of that time stools which have been rotten will have lost their putrid odor, usually, and at the end of forty-eight hours they will certainly have lost their putridity. But it is desirable, where possible, to withhold proteid food for several days after the stools have lost their putridity. In chronic cases, where there is already ulceration of the intestine, the putridity is maintained by something besides the intestinal contents. Let us say the putridity has ceased, what will occur? Almost always the stool will become sour; in other words, an acid fermentation which has been going on in addition to the putrid fermentation continues, so that we still have left a cause for diarrhœa, but we have transformed a diarrhœa which was capable of causing nervous symptoms into one which is only capable of producing local symptoms in the bowel; we have transformed a dangerous trouble into one comparatively simple. That is what has been gained by the method of feeding.

I think this will give you, in a general way, my idea of how to remove the cause. Remove it by purges, remove it by washing out the bowel, remove it by antiseptics, and, above all, by starving out the germs by withholding their proper food.

One other thing: that is, washing out the stomach. It frequently happens that we cannot by all these means at our disposal control things as we would like to, and it becomes necessary to wash the child's stomach. Washing the stomach, particularly where vomiting is present, is of great service, but you are not required to do it very often. I have had comparatively few cases in which it was absolutely necessary, but I believe if I had resorted to it more frequently, I would have had better results; would have cut short more cases. But it is a very troublesome measure. Washing out the bowel is an easy matter, and can be done by the mother; but washing out the stomach is something you must do yourself.

The question of the treatment of vomiting in these cases is to be considered. The vomiting is probably not due, not al ways, at least, to local conditions, but, most likely, it is due to the poisons pro duced by the various fermentations present, and it disappears when the poisons are removed. When it is present, however, it is a very serious complication, as it prevents us putting anything at all into the child's stomach. If persistent vomit ing is present, we should always wash the stomach by means of the stomach tube, and this often gives relief.

We have removed the cause; how shall we repair the damage done? Ordinarily, with the removal of the cause, the child promptly recovers. But the matter is different in a severe case where the child has been seriously ill from a sharp attack of cholera infantum, and at the end of a few hours of illness is in a state of collapse; sunken eyes, sunken fontanelle and pale, cold surface; rolling the eyes about, opening the mouth, showing the dryness of the lips, etc. What shall we do? Evidently, in such a case, there is no time for delay; the damage is too severe; the poison must be directly combated. We will, of course, stop all food at once, because we cannot run the risk of doing that child further harm; particularly would we stop milk. We would wash the bowel as far as we could, for a double purpose: the one to remove from the bowel as much offending material as possible, although but little will be found; the other, to supply some of the fluids which have been lost. The water used should be as warm as can be borne. The peculiar depression must be combated by all possible means. First, by external heat in the shape of hot baths and hot blankets wrapped about the child to stimulate it. Opium here is of great value; so also is belladonna. It directly counteracts the poison present; it is a stimulant to this particular condition. Another thing: if it is possible to get fluid of any kind into the child, do it. Why? Because that fluid will pass out again through the bowel, possibly through the kidneys, and as it goes it will wash

out some of the poison which is doing the harm. Our object in a case like this is simply to support life. We cannot attack the case on the lines I have given you before; we must counteract the poisons as well as we can by heat, belladonna, opium in small quantities and by washing out, as far as we can, through the process of elimination.

In chronic cases, those which have lasted three weeks or more, the greatest good is accomplished by regular daily lavage of the bowels. The use of intestinal antiseptics, particularly bismuth, is of considerable service. In long-continued cases, laxatives can only be used occasionally. While the diet is to be directed on the same lines as those already laid down, it need not be adhered to so absolutely.

We all have our type cases of which we make much. Among mine is one which I should like to relate to you now: A rachitic baby, which had been under my observation for regulation of diet, was suddenly taken with convulsions. Apparently the bowels were in a pretty fair state at the time. The convulsions commenced at 4 o'clock in the morning, and lasted until noon. I first saw the child about 8 A.M. The temperature then was 102° in the rectum. I suspected the bowel as the source of the trouble, and endeavored to empty it. I gave the child calomel by the mouth, washed the large intestine, and gave by the rectum a small dose of croton oil in emulsion. Quite free purgation ensued, but the convulsions continued, and I was forced to think that they had their origin in some other cause, most likely the onset of some infectious disease. I was finally reduced to the necessity of administering chloroform to control the convulsions. In the afternoon the convulsions returned, and the temperature rose very rapidly until it reached 107½°. Cold baths and antipyrine were employed without success in combating the temperature. What was making this temperature? Just before the little one died, it passed a mass of the most putrid feces I ever smelled. There was the source of the trouble; it was absorbing poison from this mass, and if I had continued trying to empty the bowel, possibly I could have saved that child.

Now, then, to repair the damage done, we must meet the symptoms as they come up. If the child has fever we will endeavor to meet the temperature by sustaining the child's strength with alcohol and by producing sweating. If the temperature be high you can produce sweating in several ways. One way is to sponge the body over with almost ice-cold water, then wrap the child up well; there is an immediate reaction. The skin becomes red and soon there is profuse sweating. That can be done with a baby where you could not do it with an adult. So we take the temperature down, as in any other disease, but particularly do we look to the bowels as the source of the trouble in these cases. In those cases where the temperature runs up to 106° and 107°, and which are sometimes called sunstroke, the trouble is probably always in the bowels, and you should remember that even after you have given a cathartic you are not through with the bowels until the symptoms cease.

I should like to say a word regarding the opium treatment of this disease. For a number of years I treated these cases with opium. There can be no question but that good results can be obtained many times by the use of opium. In the first place because of its stimulant effects, and in the next place because it relieves the pain and thereby strengthens the child. If used in the shape of a Dover's powder, it acts as an eliminant and we have some of the poisons thrown out, and in general it is a direct antidote to the poison, so that the use of opium amounts to treating the poison by a direct antidote instead of treating the disease by getting rid of the poison. It is not so illogical as one would imagine, but I don't think the treatment is good; relapses, so-called, are more apt to follow the opium treatment than the plan which I have outlined.

Another thing please do not forget; that is, that you are at all times treating the baby, and not the disease. Never treat a case of putrid stools, but be kind enough to treat the baby who is unfortunate enough to have those putrid stools. We see cases where the child is passing the most abominable stools, and yet it may be well, happy and lively; don't put such cases amongst those I have asked you to treat; they are going to do well enough if you will let them alone. We must use judgment in these things. We have many cases come to us that fortunately do not present the exact conditions for interference on the lines I have laid

down for you; and remember they do not need any such interference; they will get well if you wash out the bowels. You must remember that it is not simply the putridity that directs you to interfere, but the continued severe nervous symptoms accompanying it.

Suppose the stools are already sour; theoretically, you have got to keep out the starches, but what have you to fall back upon? Nothing in the world but white of egg. At one time I tried this plan, with the result that I succeeded in changing acid diarrhœas to putrid diarrhœas. A sour diarrhœa we can treat with bismuth and complete withholding of food, or the use of milk. The milk will keep up the sour diarrhœa because of the sugar in the milk, but it is the best we can do. Remember that a sour diarrhœa is not ordinarily dangerous. We can also give opium, and this is the place where we may want opium. The acid produces colic in the bowel and also flatulence. The gas does not cause the pain; it is the acid that causes the pain. Lavage of the bowel can also be profitably employed. The acid form of the trouble is not so amenable to dietetic treatment on the plan I have given as is the putrid form, and we must treat it on other grounds.

—Christopher, *Jour. Am. Med. Assoc.*

Artificial Foods.—Peptonized milk was supposed to completely revolutionize infants' and children's feeding, when first suggested by Fairchild Bros., only a few years ago. I advised it frequently for some time, and on many occasions it appeared to work like a charm, especially in cases of gastro-intestinal catarrh. Latterly it has disappointed me, and during the last year I have not advised it more than two or three times.

Dr. Adams, of Washington, speaking of a couple of cases of gastro-intestinal catarrh in the Children's Hospital of that city not doing as well as his private patients, investigated and found that the resident physician was experimenting with peptonized and pancreatinized milk. He found that as soon as this was stopped and properly prepared cow's milk was substituted, the cases quickly recovered.

In regard to patent foods, Rotch says: "They must necessarily be unreliable; their claims are not supported by intelligent and unprejudiced investigation." Further, he thinks "it is high time for us, as physicians, to appreciate exactly how inefficient in themselves, and how misleading in their claims, are these artificial foods, and also in what a false position, as protectors of and advisers to the public, we are placed in doing anything but ignoring them." He is convinced, that the merit of their at times apparent success does not belong to them, but to other accompanying circumstances.

Adams (of Washington) also "desires to enter a protest against the use of the various 'infant's food' as substitutes for or aids to cow's milk. Mothers are attracted to them by the warnings posted in street cars, and the pictures of plump, rosy babies distributed by the druggists. Analyses by competent and honest chemists—not paid by the manufacturers—have shown them to be rich in the ingredients they are guaranteed not to contain, and to be deficient in those which are lauded as being present in larger proportion than in any other food."

—Machell, *Can. Practitioner.*

Boiled Milk.—A very important question, from the point of view of the nourishment of newly born children, is whether boiled milk retains a sufficiently nutritive value.

Formerly it was universally thought that milk ought to be used in a state as nearly like as possible to that in which it is when issuing from the breast, and uncooked milk was the only kind employed for feeding infants. Nowadays, however, since it has been clearly demonstrated that milk may be an agent for the transmission of various diseases, such as eruptive fevers, typhoid fever, and especially consumption, most authors and physicians agree in recommending that boiled milk only should be given to infants.

This practice is assuredly excellent from the point of view of prophylaxis against contagious diseases; but is it equally good from the point of view of alimentary hygiene, and, in feeding infants on boiled milk, do they get sufficient nourishment?

This question has been examined, with the aid of all the documents which could be collected, by Mr. Henry Drouet, in a little book just published at Paris. From his researches, made from the various points of view of physiology, clinical treatment, and microbes, results the general conclusion that boiling does not at all diminish the digestibility of milk, and con-

sequently does not diminish its nutritive value.

It may even be said that most of the experiments of physiologists tend to show that boiled milk is more digestible than uncooked milk, and that, in fact, the infants who can digest the latter better than the former, are the exception and not the rule.

The mortality of children brought up on the bottle has lessened for some years past in considerable proportions. This mortality, which formerly reached the figure of 90 out of every 100, has been reduced to an average of 10 out of every 100 in all the departments in which the Roussel Law has been diligently enforced. In the department of the Eure, that mortality, a few years ago, was but 7 in a 100. These happy results are plainly due in great part to the supervision of nurses required by the Roussel Law. Nevertheless, it must be noted that the superiority of boiled milk has been assented to by most physicians, and that they more and more require the nurses whom they superintend to feed their charges with boiled milk. It is then allowable to suppose that the use of boiled milk is one factor in the diminution of mortality in infants brought up on the bottle.

The only case in which there would appear reason for not boiling the milk, is when the animal which furnishes the milk is well known, and there can be no doubt about its apparently perfect state of health. Even in this case, however, the security is deceitful, for it is known that tuberculous animals have taken prizes in competitions of fat beasts, and that a diagnosis of tuberculosis limited to the teat —a form of the disease especially dangerous from the point of view of the transmission of the malady—is an extremely difficult sort of diagnosis.

The conclusion to be drawn is that milk destined for food of infants should always be boiled, without any apprehension of any alteration in the liquid, from the point of view of the preservation of its nutritive value.—*Literary Digest.*

It has been recently conceded that opium should never be given alone in acute digestive disturbances of children, but always in conjunction with some disinfectant. Moreover, the use of this drug in infants should be restricted to very small doses, never exceeding one or two drops of the tincture per diem. Many of the most recent writers discard opium entirely. Liebermeister, for instance, asserts that in children under one year of age, opium should never be used, claiming that even when given in minimum doses, so small that no beneficial action can be obtained, there is possible danger. He substitutes the tincture of nux vomica, and in cases of cholera infantum in infants about six months old, uses the following formula:

℞.—Sodii bicarb..... 2 grams.
Tinct. nucis vomica..... gtt. v.
Aquæ foeniculi..... 60 grams.
Sacch. albi..... 5 grams.
M.—Sig. One half teaspoonful every half hour.

The use of opium is attended with far greater danger in children than in adults, and symptoms of poisoning and collapse are only too easily produced, especially as in these cases of digestive derangement there is a tendency to collapse. Sonnenberger reports a case of severe opium poisoning, which fortunately terminated favorably, in a child one and a half years old, that had been given seven drops in the course of a day and a half of the simple tincture of opium. If opium be given at all, it should be only in those cases in which there is no tendency to collapse. Seifert, the eminent German pædiatrist, gives the following table of doses:

For children up to one year of age, ½ to 1 drop of the simple tincture of opium daily; from one to two years of age, 1 to 2 drops, always in combination.

The formula in which Sonnenberger has so successfully employed resorcin is as follows:

℞.—Resorcin pur..... 0.1-0.25 grams.
Infus. chamom..... 70.0 grams.
Tr. opii camph..... gtt. 1 to 11
Syr. aurant. cort..... 20.0 grams.
M.—Sig. Half a teaspoonful every one or two hours.

The opium may be replaced by tincture of rhatany or tincture of cascarilla. Excellent results can confidently be expected from the use of this formula.

—*Med. and Surg. Reporter.*

A Strange Case of Epilepsy.—There has just been discharged from the City and County Hospital an epileptic with a peculiar surgical history. The patient, a very intelligent man, about thirty-two years of age, gives a history of no form of nervous disease in family, and

of splendid personal health up to eight years ago, when he was struck over the head with a billiard cue, which laid him up for a few days. The next summer he was in Peru, South America, and contracted a fever, for which he was ordered arsenic. It appears that he took large doses, as much as 10 to 12 minims of Fowler's solution ter in die, over a period of two months, at the end of which time, on a hot day, he had an epileptoid convulsion. This recurred every month for about a year, when they gradually became more frequent up to the time when he first came under observation, in April, 1889, when the attacks were daily. He said he had no convulsion at night, but after admission to the hospital, we soon found they were nocturnal as well as diurnal. There was no aura, no premonition of any kind, no consciousness during the attacks, nor any paresis following. The movements appeared general from the start, but perhaps were a trifle earlier on the right side. On examination there was a well marked depression found on the scalp, just posterior to the line of the fissure of Rolanda. This was chiefly on the left side, but extended across the median line and corresponded to the site of injury with the billiard cue. Dr. R. A. McLean operated after making it the subject of a lecture. He pointed out that ordinary symptoms of Jacksonian epilepsy were marked by reason of the pressure being on both sides, on the motor areas. A broad flap of the scalp was dissected up, and the calvarium was found apparently normal in every particular, with not a sign of any depression or fracture. The trephine was, however, applied, and a piece of bone as large as a silver half dollar removed; the membranes, as well as the surface of the brain, being found healthy. A needle was then passed in three directions to a depth of two inches into the brain tissue, but nothing abnormal discovered. The patient recovered without a bad symptom, and was discharged in six weeks, having had no return of the epilepsy at that date. He applied for re-admission in the early part of 1890, stating that after the operation he had not had any fit for over six months, but after that date the previous symptoms had recurred and had now again become frequent, so that he had to give up his business. Another operation was undertaken at his request, and the opening enlarged, during which the superior longitudinal sinus was opened and plugged. The patient got well and was discharged as before, and re-appeared in May, 1891, eager for another operation. He was told of the danger of proceeding further, and how little good could be expected, but he insisted on the operation, saying his life was useless as he was, and that the few months respite were well worth the danger of the operation. Dr. McLean then operated on him the third time, removed more bone, and turned back the flap, dressing it open. The epilepsy has since recurred about once a month, and of late not quite so frequent, having been, to date, nearly two months without an attack, the patient has "got religion" and is happy. He has left the hospital with a window in his skull over seven inches in circumference, the flap has contracted to a small nodule, and the brain is covered with a layer of white pearly cicatricial tissue. There was never anything found to account for the epilepsy, yet there is no doubt that the patient was benefited by each operation, and that he is now in a great deal better condition than when we first saw him in 1889.

—*Weekly Med. Review.*

THERAPEUTIC NOTES.

(E. W. BING, M.D., CHESTER, PA., TRANSLATOR).

EXTIRPATION OF A TUBERCULOUS KIDNEY (Baginsky).—A child suffering under tuberculous affection of the bones and joints was attacked by measles, accompanied with intense albuminuria. The urinary sediment was composed of pus corpuscles (casts), made up of fat globules and epithelial cells, and also containing tubercular bacilli.

A diagnosis of renal tuberculosis was made, but the question was as to which kidney was affected, when there appeared behind and to the left side a slight prominence with dullness on percussion, both of which gradually increased in extent and intensity. There was then considered to be a tuberculous lesion of the left kidney, together with, in spite of the absence of fluctuation, perinephritis. The kidney greatly hypertrophied, and enclosing tuberculous foci of considerable extent was removed.

The child is still alive; the cellular elements in the urine have diminished in such a way as to give reason for hope that

the other kidney remaining healthy may supply the functions of the removed organ.
—*La Medicine Moderne.*

RESECTION OF THE PERIPHERAL END OF NERVES IN THE TREATMENT OF CERTAIN NEURALGIAS.—This operation was done by Pollosson, on a person fifty-four years of age, subject to neuralgia for fourteen years. He had six years previously undergone a resection of the inferior dental nerve. A year's relief followed this operation. Four years afterwards the pains made their appearance in the region supplied by the inferior dental and the three branches of the trigeminal. The latter were cut, six months' ease followed this; then Pollosson determined on a resection of the peripheral end of the inferior dental, and at the same time a section of the lingual nerve. The ease obtained was immediate. It was the cutting of the lingual nerve which cured the patient perhaps, but M. Pollosson says not. The sensibility has disappeared in the limits of the inferior dental. If the neuralgia recurs he will do the same operation on the peripheral part of the other inferior dental nerve.
—*La Medicine Moderne.*

HYPER SECRETION OF THE CEPHALO-SPINAL FLUID AS A CAUSE OF THE SYMPTOMS WHICH SUPERVENE AFTER OPERATIONS ON THE NERVOUS CENTERS.—M. Pollosson had made punctures on a child of fourteen months with hydrocephalus; the patient experienced a rise of temperature and died without presenting convulsions or muscular rigidity. The autopsy showed simply an enormous quantity of cephalo-spinal fluid.

In another case, a small female child, idiotic and epileptic, had previously had an operation on the cranium. The child had crises of epilepsy which were attributed to the pressure of the thickened skull. Trephining showed the presence of an erectile tumor near the superior longitudinal sinus. Death occurred two days afterwards. There was considerable rise of temperature, 42.1 C. Respiration was very frequent, and the pulse extremely rapid. No vomiting or muscular rigidity (contractures). At the autopsy, the wound was aseptic. There was neither meningitis nor cerebritis. The quantity of the rachidian fluid was much increased. Pollosson thinks certain operative measures can cause death from compression of the medulla by an increase in quantity of the rachidian fluid.—*La Medicine Moderne.*

TWO RARE CASES OF TYPHOID FEVER (Gerlœzy).—The first case was an example of mixed infection by the bacilli of typhoid fever and diphtheria which did not recover. The autopsy proved the diagnosis. The second case was an apyretic one, complicated with general grave symptoms. It recovered. These facts bring it into the category of cases of typhoid fever characterized by a depression of internal temperature in connection with cerebral irritation.—*Revue Generale.*

ANTISEPTIC TREATMENT OF BURNS (Maylard).—When a serious burn has occurred and there exist necrosed tissues, septic manifestations are produced during the period of elimination and repair, and gives rise to an oppressive odor. These are the causes of inconvenience and even of danger in serious burns. The burn having taken place, the action of the heat has rendered the part sterile, and the method of treatment pursued by the author has in view the keeping of it antiseptic, and the prevention of decomposition. He cuts away the clothing around the burnt part and bathes the wound with a hot solution of sublimate $\frac{1}{2000}$, to wash away all foreign bodies or to render those sterile which he is obliged to allow to remain. The surface is then covered with a protective soaked in the same solution, then with a pad of boric gauze, wet again with the sublimate solution; then he covers the whole with a thin sheet of rubber and finishes the dressing with a "sublimated" bandage. The dressing is changed every two, three, or four days, according to the amount of discharge. The author reports six cases dressed in this way with excellent results. These are the advantages of the method: "The sterilized parts of the burn" are kept aseptic; no inflammation is developed, and in consequence no mortification ensues. Suppuration is wanting. Dressings are few; there is little or no pain at the removal of the dressings; no odor; necrosed tissues are rapidly removed by healthy granulations. The resulting cicatrix is reduced to the minimum by the preservation of a large part of the tissue, the healing gives no local trouble. There is an absence of any general symptoms.
—*Rev. Gen. de Med.*

TREATMENT OF CHRONIC INFANTILE RHEUMATISM (Simon).—1. Immobilization of rheumatic joint, which are painted with tr. iodine, or covered with hemlock plaster.

2. Internally colchicum and iodides of the alkaline earth. For fifteen days 15 cgms. of iodide of potassium are given with each meal, or the syrup of iodide of iron may be used instead.

For the next fifteen days, during the day, there may be administered from 5 to 10 drops of wine of colchicum ind.

—*La France Med.*

ANTI-CONSTIPATION PILLS (Huchard).—These pills are indicated in heart troubles, complicated with hepatic congestion.

℞.—Aqueous extract ergot..... 3j.
Powd. squills..... gr. xlv.
Powd. digitalis..... gr. xv.
Calomel..... 3ss.
F.—Sig. ut ft. pil 40.
Dose.—2 to 4 daily, for three or four days.

Or this:

℞.—Powd. digitalis.... ..... } each gr. lxxv.
" squills..... }
" scammony..... }
Syrup acacia.
For 100 pills.
Dose.—2 or 3 daily.

—*La France Med.*

News and Miscellany.

DR. H. W. WHELPLEY and Miss Laura E. Spannagel were married at the Church of the Unity, St. Louis, on June 29. We wish the young couple all happiness and prosperity, and regret that the distance prevented an attendance. Dr. Whelpley is well known to our readers through his brain children.

RULES FOR THE MANAGEMENT OF INFANTS DURING THE HOT SEASON.—RECOMMENDED BY THE OBSTETRICAL SOCIETY OF PHILADELPHIA, AND PRINTED BY THE BOARD OF HEALTH, WITH SLIGHT MODIFICATIONS.—RULE 1.—Bathe the child once a day in lukewarm water. If it is feeble, sponge it all over twice a day with lukewarm water, or with lukewarm water and vinegar. The health of the child depends much upon its cleanliness.

RULE 2.—Avoid all tight bandaging. Have light flannel as the inner garment, and the rest of the clothing light and cool, and so loose that the child may have free play for its limbs. At night undress it, sponge it, and put on a slip. In the morning remove the slip, bathe the child, and dress it in clean clothes. If this cannot be afforded, thoroughly air the day-clothing by hanging it up during the night. Use clean diapers, and change them often. Never dry a soiled one in the room in which the child is, and never use one for the second time without first washing it.

RULE 3.—The child should sleep by itself in a cot or a cradle. It should be put to bed at regular hours, and be early taught to go to sleep without being nursed in the arms. Without the advice of a physician, never give it any spirits, cordials, carminatives, soothing syrups, or sleeping drops. Thousands of children die every year from the use of these poisons. If the child frets and does not sleep, it is either hungry or else ill. If ill, it needs a physician. Never quiet it by candy or by cake; they are the common causes of diarrhœa and of other troubles.

RULE 4.—Give the child plenty of fresh air. In the cool of the morning and early evening, have it out of doors for a little; take it to the shady side of broad streets, to the public squares, to the Park, or make frequent excursions to the rivers. Whenever it seems to suffer from the heat, let it drink freely of water which has been boiled and cooled by ice. Keep it out of the room in which washing or cooking is going on. It is excessive heat that destroys the lives of young infants.

RULE 5.—Keep your house sweet and clean, cool, and well aired. In very hot weather let the windows be open day and night. Do your cooking in the yard, in a shed, in the garret, or in an upper room. Whitewash the walls every spring, and see that the cellar is clear of all rubbish. Let no slops collect to poison the air. Correct all foul smells by pouring chloride of lime into the sinks and privies. This article can be got from the nearest druggist, who will give the needed directions for its use. Make every effort yourself, and urge your neighbors to keep the gutters of your street or of your court clean.

RULE 6.—Breast milk is the only proper food for infants. If the supply is ample, and the child thrives on it, no other kind

of food should be given—while the hot weather lasts. If the mother has not enough, she must not wean the child, but give it, beside the breast, goat's or cow's milk, as prepared under Rule 8. Nurse the child once in two or three hours during the day, and as seldom as possible during the night. Always remove the child from the breast as soon as it has fallen asleep. Avoid giving the breast when you are over-fatigued or over-heated.

RULE 7.—If, unfortunately, the child must be brought up by hand, it should be fed on a milk-diet alone—that is, warm milk out of a nursing bottle, as directed under Rule 8. Goat's milk is the best, and next to it, cow's milk. If the child thrives on this diet, no other kind of food whatever should be given while the hot weather lasts. At all seasons of the year, but especially in summer, there is no safe substitute for milk if the infant has not cut its front teeth. Sago, arrow-root, potatoes, corn-flour, crackers, bread, every patent food, and every article of diet containing starch, cannot and must not be depended on as food for very young infants. Creeping or walking children must not be allowed to pick up unwholesome food.

RULE 8.—Each bottleful of milk should be sweetened by a small lump of loaf-sugar, or by half a teaspoonful of crushed sugar. If the milk is known to be pure, it may have one-fourth part of hot water added to it; but, if it is not known to be pure, no water need be added. When the heat of the weather is great, the milk may be given quite cold. Be sure the milk is unskimmed; have it as fresh as possible, and brought very early in the morning. Before using the pans into which it is to be poured, always scald them with boiling suds. In very hot weather, scald the milk as soon as it comes, and at once put away the vessels holding it in the coolest place in the house—upon ice if it can be afforded, or down a well. Milk carelessly allowed to stand in a warm room soon spoils and becomes unfit for food.

RULE 9.—If the milk should disagree, a tablespoonful of lime-water may be added to each bottleful. Whenever pure milk cannot be got, try the condensed milk, which often answers admirably. It is sold by all the leading druggists and grocers, and may be prepared by adding to six tablespoonfuls of boiling water without sugar one tablespoonful or more of the milk, according to the age of the child. Should this disagree, a teaspoonful of arrow-root, of sago, or of corn-starch to the pint of milk may be cautiously tried. If the milk in any shape cannot be digested, try, for a few days, pure cream diluted with three-fourths or four fifths of water—returning to the milk as soon as possible.

RULE 10.—The nursing bottle must be kept perfectly clean; otherwise the milk will turn sour, and the child will be made ill. After each meal it should be emptied, rinsed out, taken apart, and the nipple and bottle placed in clean water, or in water to which a little soda has been added. It is a good plan to have two nursing-bottles, and to use them by turns. The best kind is the plain bottle with a rubber nipple and no tube.

RULE 11.—Do not wean the child just before or during the hot weather; nor, as a rule, until after its second summer. If suckling disagrees with the mother, she must not wean the child, but feed it in part, out of a nursing-bottle, on such food as has been directed. However small the supply of breast-milk, provided it agrees with the child, the mother should carefully keep it up against sickness; it alone will often save the life of a child when everything else fails. When the child is over six months old, the mother may save her strength by giving it one or two meals a day of stale bread and milk; which should be pressed through a sieve and put into a nursing-bottle. When from eight months to a year old it may have also one meal a day of the yolk of a fresh and rare-boiled egg, or one of beef or mutton broth, into which stale bread has been crumbled. When older than this, it can have a little meat finely minced; but even then milk should be its principal food, and not such food as grown up people eat.

Brief Rules for Cases of Emergency.—RULE 1.—If the child is suddenly attacked with vomiting, purging, and prostration, send for a doctor at once. In the meantime, put the child for a few minutes in a hot bath, then carefully wipe it dry with a warm towel, and wrap it in warm blankets. If its hands and feet are cold, bottles filled with hot water and wrapped in flannel should be laid against them.

RULE 2.—A mush poultice, or one made of flaxseed meal, to which one-quarter part of mustard flour has been added, or flannels wrung out of hot vinegar and water, should be placed over the belly.

RULE 3.—Five drops of brandy in a teaspoonful of water may be given every ten or fifteen minutes; but if the vomiting persists, give this brandy in equal parts of milk and lime-water.

RULE 4.—If the diarrhœa has just begun, or if it is caused by improper food, a teaspoonful of castor-oil, or of the spiced syrup of rhubarb, should be given.

RULE 5.—If the child has been fed partly on the breast and partly on other food, the mother's milk alone must now be used. If the child has been weaned it should have pure milk with lime-water, or weak beef tea, or chicken water.

RULE 6.—The child should be allowed to drink cold water freely.

RULE 7.—The soiled diapers or the discharges should be at once removed from the room, but saved for the physician to examine at his visit.

For the Convenience of Mothers the Follow Recipes for Special Forms of Diet are Given.—Boiled Flour or Flour Ball.—Take one quart of good flour; tie it up in a pudding-bag so tightly as to make a firm, solid mass; put it into a pot of boiling water early in the morning, and let it boil until bed-time. Then take it out and let it dry. In the morning peel off from the surface and throw away the thin rind of dough, and, with a nutmeg-grater, grate down the hard mass into a powder. Of this from 1 to 3 teaspoonsfuls may be used by first rubbing it into a paste with a little milk, then adding it to about a pint of milk, and, finally, by bringing the whole to just the boiling point. It must be given through a nursing bottle.

An excellent food for children who are costive may be made by using bran meal or unbolted flour instead of the white flour, preparing it as above directed.

Rice Water, Barley Water, etc.—Wash four tablespoonfuls of rice; put it into two quarts of water, with a little salt, and boil down to one quart, and then add sugar and a little nutmeg. This makes a pleasant drink.

A pint or half a pint of milk added to the rice water, before it is taken from the fire, gives a nourshing food suitable for cases of diarrhœa.

Barley, sago, tapioca, or cracked corn can be prepared in the same manner.

Beef Tea.—Take one pound of juicy lean beef—say a piece from the shoulder or the round—and mince it. Put it with its juice into an *earthen* vessel containing a pint of tepid water, and let the whole stand for one hour. Then slowly heat it to the boiling point, and let it boil for three minutes. Strain the liquid through a cullender, and stir in a litle salt. If preferred, a little pepper or allspice may be added.

Mutton Tea may be prepared in the same way. It makes an agreeable change when the patient has become tired of beef tea.

Raw Beef for Children.—Take half a pound of juicy beef, free from any fat; mince it very finely; then rub it into a smooth pulp either in a mortar or with an ordinary potato-masher, and press it through a fine sieve. Spread a little out upon a plate and sprinkle over it some salt, or some sugar if the child prefers it. Give it alone or spread upon a buttered slice of stale bread. It makes an excellent food for children with dysentery.

HARDENING THE SYSTEM.—My chief rule for food is dry, simple, nourishing household fare, not spoiled by art or by strong spices. I am no Puritan, and gladly allow a glass of wine or beer, but without regarding them as important, as many persons believe them to be.

I oppose thick woolen clothing worn next to the skin, but I approve of clothing made of firm, dry, strong linen, or hemp-cloth. The last named is to me the best skin on the skin, which never effeminates it, but does the good service of a rubber. The many-branched, hairy, greasy texture of the wool on the bare body I look upon as a sucker of fluids and warmth, as a concurring cause of the dreadfully spreading want of blood in our weak, miserable generation.

The most natural and most simple means of hardening is walking barefooted. Grown-up people in towns, especially those who belong to the higher classes, cannot make use of this practice; that is quite clear. Yet what is to prevent them from taking a promenade in their bare feet for ten, fifteen, or thirty minutes at night before going to sleep, or in the morning when rising?

A special and extremely efficacious kind of walking barefooted, is walking in the grass, no matter if it be wet with dew, rain, or watering. This practice I can highly recommend to young and old, healthy and sick, no matter what other

application they may be using. The wetter the grass, the longer one perseveres in the exercise, and the oftener it is repeated, the more perfect will be the success. The exercise is generally taken for from fifteen to forty-five minutes.

About the same effect is produced by walking on wet stones, which is more convenient and easy for many people. Walking in newly-fallen snow produces even greater effect than the two practices mentioned. Walking in water reaching as far as the calf of the leg, has influence on the entire body, and strengthens the whole system. In winter snow may be mixed with the water. With weaklings, warm water may be used in the beginning, then, by and by, colder, and, lastly, quite cold water.—*Abbé Kneipp.*

THE following ordinance, enacted by the Governor of Malta, is taken from the Malta *Government Gazette:*

For checking the spread of the disease commonly known as leprosy.—Whereas it is expedient to make provisions for checking the spread of the disease commonly known as leprosy, it is hereby enacted and ordained by his excellency the Governor, with the advice and consent of the Council of Government, as follows:

ARTICLE 1. Every physician or surgeon who, in the exercise of his profession, observes any case of the disease commonly known as leprosy, shall, within twenty-four hours, make a report thereof to the chief Government medical officer.

The same obligation to make the said report lies on the head of the family of any person suffering from the said disease, and, in his default, on the nearest relative residing in the same house in which the person suffering from such disease dwells, as well as on the person who occupies or has the management of the house or other place in which the patient dwells; in this case, however, the term for making the report referred to in the preceding paragraph is one month, to be reckoned, in regard to cases of leprosy existing before the promulgation of this ordinance, from the day of such promulgation, and in regard to all other cases, from the day on which the said persons became aware of such disease.

The punishments for any breach of the provisions contained in the preceding paragraphs shall be those established for contraventions.

2. It shall also be the duty of the superintendent of police to make to the said medical officer a report of any cases of the disease mentioned in the preceding article of which he may become aware.

3. If the chief Government medical officer, upon the receipt of the report referred to in Article 1, be of opinion that the person therein mentioned is suffering from the said disease, he shall immediately communicate such opinion to the Government in writing, and in any such case the head of the Government may, by warrant under the hand of the chief secretary to Government, order that such person shall be removed to an asylum for lepers in these islands, to be there detained during the whole period of the disease.

4. Whoever shall knowingly harbor or cause to be harbored any person suffering or suspected to be suffering from leprosy, with intent to conceal such disease, or to prevent the removal of such person to the asylum referred to in the preceding article, shall be liable to the punishments established for contraventions.

5. Persons detained in the said asylum may be seen by their relations and friends under such regulations as shall be made by the head of the Government.

6. In the said asylum males shall be separated entirely from females.

7. Each person detained in the said asylum shall be maintained at the expense of the Government, saving the right of the Government to be reimbursed by those who are bound according to law to supply maintenance.

The officer in charge of the asylum may, however, allow persons therein detained to provide meals at their own expense.—*U. S. M. H. Sanitary Reports.*

THE BEST LIST FOR THE POCKET CASE.—We present to our readers this week, one of the lists of forty-eight drugs in granule form, most suitable for the pocket case, as formulated by a progressive, wide-awake physician, Dr. D. S. Ellis, of Suffolk, Va. The doctor sent the list to the Philadelphia Dosimetric Co., 2009 Arch street, Philadelphia, in response to their offer of a prize for the best list, and was one of the successful contestants. We succeeded in obtaining this one, which we believe will be of great interest to all practitioners:

Aconitine.—For acute fevers, with strong, full pulse; headache in plethoric subjects, suspended menstruation.

Aloin.—For constipation, hemorrhoids, etc.

Arsenite of Copper.—For cholera infantum, diarrhœa of typhoid fever, intestinal antisepsis generally.

Amorphia Mur.—For producing emesis in acute poisoning, croup, whiskey narcosis, etc., and as nauseating expectorant in acute bronchial inflammations.

Atropine.—For opium poisoning, exhausting sweats, collapse, cholera infantum, enuresis, carbolic acid poisoning (hypodermically), acute coryza.

Atropin, $\frac{1}{100}$. *Morphine*, $\frac{1}{8}$.—For acute pain, generally; colic, cholera morbus, cramps, dysmenorrhœa.

Ars. Strychnine.—Nervous stimulant generally; failure of respiration; second stage of pneumonia.

Bichlor. Mercury.—For infantile dysentery and syphilis, and for making antiseptic solution for surgical dressing.

Calomel.—For irritable stomach, "biliousness," cholera infantum, etc.

Caffeine Cit.—For nervous headache, opium poisoning, hysteria, neurasthenia.

Cocaine Hyd.—For heart and nerve tonic, laryngitis, ulcerated mouth and sore throat, acute conjunctivitis (locally), foreign bodies in the eyes.

Calcium Sulphide.—For glandular enlargement and inflammation, abscesses, threatened mammitis, diphtheria.

Capsicum.—For stomachic tonic, stimulant, cold stage of intermittent fever, collapse.

Carbolic Acid.—For intestinal antiseptic in cholera infantum, dysentery and typhoid fever, irritable stomach.

Creasote.—For irritable stomach, gastric catarrh, tuberculosis.

Croton Oil.—For obstinate constipation, congestion of brain.

Digatalin.—For heart tonic in prostration of second stage of pneumonia, in cardiac weakness from any cause, as dilatation without hypertrophy, diuretic in suppression of urine, dropsies, etc.

Dover's Powder.—Anodyne and hypnotic in bronchitis, pneumonia, and other febrile diseases; cholera infantum for pain when there is no tendency to stupor.

Ergotin.—For hemorrhages (hypodermically), galactorrhœa, pneumonia, subinvolution.

Emetin.—For producing emesis, for acute stage of bronchitis and laryngitis.

Elaterin.—For dropsies and cerebral congestion in plethoric patients.

Gelsemine.—For trigerminal neuralgia, cardiac sedative in sthenic fevers.

Glonoin.—For angina pectoris, heart failure, syncope.

Hyoscine.—For delirium and sleeplessness in acute febrile cases, delirium tremens, mania.

Ipecac.—For acute stage of bronchitis, larygitis, etc; for vomiting of pregnancy and dysentery.

Labelin.—For asthma, acute bronchitis, whooping-cough.

Morphine Sul.—For colic, belladonna poisoning, cough, pain in any acute disease, as pneumonia, pleurisy, dysentery.

Pilocarpin Nit.—For producing diaphoresis in acute fevers, erysipelas, or galactogogue.

Picrotoxin.—For night sweats of phthisis.

Podophyllin.—For acute constipation, with torpid liver.

Podophyllin $\frac{1}{10}$ gr., *Calomel* $\frac{1}{10}$ gr.—For use in beginning of fevers, especially those characterized by furred tongue and sallow complexion, jaundice, cholera infantum.

Piperine.—For use as antiperiodic, intermittent fever.

Quinine Hydroferroc.—For malarial fever, high temperature in any form, without nervous symptoms.

Quinine Sulph.—For intermittent and remittent fevers, tonic and appetizer, malarial, neuralgia, pneumonia.

Sulphide Arsenic.—For chronic skin diseases, eczema, acne, etc.

Santonin.—For worms in the intestinal canal.

Strychnine Nit.—Nerve stimulant generally, and in dypsomania.

Strophanthin.—For mitral regurgitation, functional irregularity of heart action, renal dropsy.

Tartar Emetic.—For delirium (active) in acute diseases, first stage of bronchitis, delirium tremens.

Terebene.—For acute and chronic bronchitis, bronchorrhœa, flatulent dyspepsia.

Terpin Hydrate.—Indications same as above (Terebene).

Veratrine.—For sthenic cases of pneumonia, with quick, strong pulse; for mania-a potu, cardiac hypertrophy.

Acetanilid.—To reduce temperature in all sthenic fevers, headache, neuralgia, dysmenorrhœa.

Apiol, 1 drop.—For amenorrhœa, dysmenorrhœa, suppression of urine.

Sulpho-carbolate of Zinc.—For cholera infantum, typhoid fever, dysentery, cholera morbus.

Valerinate of Zinc.—For epilepsy, hysteria, chorea.

Valerinate of Strychnine.—Nerve tonic in neurasthenia, and allied diseases.

Sugar of Lead.—For diarrhœa, cholera infantum in chronic stages, hemorrhages.

Colchicine.—For gout and chronic rheumatism.

Hydrastin.—For gonorrhœa and gleet.

The last two are given to make out the number in case you don't allow my two compounds, atropine and morphine, and podophyllin and calomel.

D. S. ELLIS, M.D.,
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